

#### LABORATORY DATA CONSULTANTS, INC.

7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tait Environmental Management, Inc.

July 19, 2007

701 N. Park Center Drive Santa Ana, CA 92705

ATTN: Ms. Clara Boeru

SUBJECT: Boeing Realty Corp. Bldg C-6 Facility, Data Validation

Dear Ms. Boeru,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on July 9, 2007. Attachment 1 is a summary of the samples that were reviewed for each analysis.

#### **LDC Project # 17079:**

SDG#

Fraction

IQE0801, IQE0963,

Volatiles, Wet Chemistry, Dissolved Gases

**IQE1077** 

The data validation was performed under Tier 1, Tier 2 and Tier 3 guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998

Please feel free to contact us if you have any questions.

Sincerely,

Stella S. Cuenco

Project Manager/Senior Chemist

17079ST.wpd

#### Boeing Realty Corp. Bldg C-6 Facility Data Validation Reports LDC# 17079

Volatiles

# Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** 

Boeing Realty Corp., Bldg C-6 Facility

**Collection Date:** 

May 8, 2007

**LDC Report Date:** 

July 17, 2007

Matrix:

Water

Parameters:

Volatiles

Validation Level:

Tier 1

Laboratory:

TestAmerica

Sample Delivery Group (SDG): IQE0801

Sample Identification

TMW\_07\_WG050807\_0001

#### Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. Cooler temperatures for all samples were reported at 10°C upon receipt by the laboratory. The samples were picked up in the field and did not have sufficient time to cool down. No data was qualified based on the cooler temperature.

#### II. GC/MS Instrument Performance Check

Instrument performance data were not reviewed for Tier 1.

#### III. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

#### IV. Continuing Calibration

Continuing calibration data were not reviewed for Tier 1.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
7E09008-BSI	2,2-Dichloropropane	141 (65-140)	All samples in SDG IQE0801	J (all detects)	Р

#### IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

Internal standards data were not reviewed for Tier 1.

#### XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

#### XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

#### XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

#### XIV. System Performance

Raw data were not reviewed for this SDG.

#### XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

#### XVI. Field Duplicates

No field duplicates were identified in this SDG.

#### XVII. Field Blanks

No field blanks were identified in this SDG.

#### Boeing Realty Corp., Bldg C-6 Facility Volatiles - Data Qualification Summary - SDG IQE0801

SDG	Sample	Compound	Flag	A or P	Reason
IQE0801	TMW_07_WG050807_0001	2,2-Dichloropropane	J (all detects)	Р	Laboratory control samples (%R)

Boeing Realty Corp., Bldg C-6 Facility Volatiles - Laboratory Blank Data Qualification Summary - SDG IQE0801

No Sample Data Qualified in this SDG

### Test/America

ANALYTICAL TESTING CORPORATION

17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing

701 N. Parkcenter Drive

Santa Ana, CA 92705 Attention: Clara Boeru Project ID: Boeing C-6 Torrance

EM2727

Report Number: IQE0801

Sampled: 05/08/07

Received: 05/08/07

#### **VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)**

Analysta	Method	Bateh	MDL Limit	Reporting Limit	Sample Result	Dilution	Date Extracted	Date Analyzed	Data Qualifiers
Analyte	Wiethod	Daten	Limit	Lillit	Resure	ractor	Extracted	Ananyzeu	Q
Sample ID: IQE0801-01 (TMW_07_ Reporting Units: ug/l	.WG050807_0001 - Wa	ater)			Sample	ed: 05/08/0	)7		
Acetone	EPA 8260B	7E09008	4.5	. 10	ND	I	05/09/07	05/09/07	
Benzene	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
Bromobenzene	EPA 8260B	7E09008	0.27	1.0	ND	1	05/09/07	05/09/07	
Bromochloromethane	EPA 8260B	7E09008	0.32	1.0	ND	I	05/09/07	05/09/07	
Bromodichloromethane	EPA 8260B	7E09008	0.30	1.0	ND	1	05/09/07	05/09/07	
Вготоболи	EPA 8260B	7E09008	0.40	1.0	ND	1	05/09/07	05/09/07	
Bromomethane	EPA 8260B	7E09008	0.42	1.0	ND	1	05/09/07	05/09/07	
2-Butanone (MEK)	EPA 8260B	7E09008	3.8	5.0	ND	1	05/09/07	05/09/07	
n-Butylbenzene	EPA 8260B	7E09008	0.37	1.0	ND	I	05/09/07	05/09/07	
sec-Butylbenzene	EPA 8260B	7E09008	0.25	1.0	ND	1	05/09/07	05/09/07	
tert-Butylbenzene	EPA 8260B	7E09008	0.22	1.0	ND	1	05/09/07	05/09/07	
Carbon Disulfide	EPA 8260B	7E09008	0.48	1.0	ND	1	05/09/07	05/09/07	
Carbon tetrachloride	EPA 8260B	7E09008	0.28	0.50	ND	Ī	05/09/07	05/09/07	
Chlorobenzene	EPA 8260B	7E09008	0.36	1.0	ND	I	05/09/07	05/09/07	•
Chloroethane	EPA 8260B	7E09008	0.40	2.0	ND	1	05/09/07	05/09/07	
Chloroform	EPA 8260B	7E09008	0.33	1.0	4.2	1	05/09/07	05/09/07	
Chloromethane	EPA 8260B	7E09008	0.40	2.0	ND	1	05/09/0 <b>7</b>	05/09/07	
2-Chlorotoluene	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
4-Chlorotoluene	EPA 8260B	7E09008	0.29	1.0	ND	1	05/09/07	05/09/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7E09008	0.97	2.0	ND	1	05/09/07	05/09/07	
Dibromochloromethane	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7E09008	0.40	1.0	ND	1	05/09/07	05/09/07	
1,4-Dichlorobenzene	EPA 8260B	7E09008	0.37	1.0	ND	1	05/09/07	05/09/07	
1,2-Dichlorobenzene	EPA 8260B	7E09008	0.32	1.0	ND	1	05/09/07	05/ <b>0</b> 9/07	
1,3-Dichlorobenzene	EPA 8260B	7E09008	0.35	1.0	ND	1	05/09/07	05/09/07	
Dichlorodifluoromethane	EPA 8260B	7E09008	0.79	1.0	ND	1	05/09/07	05/09/07	
1,2-Dichloroethane	EPA 8260B	7E09008	0.28	0.50	ND	1	05/09/07	05/09/07	
1,1-Dichloroethane	EPA 8260B	7E09008	0.27	1.0	0.75	1	05/09/07	05/09/07	J
1,1-Dichloroethene	EPA 8260B	7E09008	0.42	1.0	19	· 1	05/09/07	05/09/07	
cis-1,2-Dichloroethene	EPA 8260B	7E09008	0.32	1.0	1.6	1	05/09/07	05/09/07	
trans-1,2-Dichloroethene	EPA 8260B	7E09008	0.27	1.0	ND	I	05/09/07	05/09/07	
1,2-Dichloropropane	EPA 8260B	7E09008	0.35	1.0	ND	1	05/09/07	05/09/07	
2,2-Dichloropropane	EPA 8260B	7E09008	0.34	1.0	ND	I	05/09/07	05/09/07	C, L
cis-1,3-Dichloropropene	EPA 8260B	7E09008	0.22	0.50	ND	1	05/09/07	05/09/07	
1,1-Dichloropropene	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
trans-1,3-Dichloropropene	EPA 8260B	7E09008	0.32	0.50	ND	1	05/09/07	05/09/07	
Ethylbenzene	EPA 8260B	7E09008	0.25	1.0	ND	1	05/09/07	05/09/07	
Hexachlorobutadiene	EPA 8260B	7E09008	0.38	1.0	ND	1	05/09/07	05/09/07	
2-Hexanone	EPA 8260B	7E09008	2.6	6.0	ND	1	05/09/07	05/09/07	
Iodomethane	EPA 8260B	7E09008	1.0	2.0	ND	1	05/09/07	05/09/07	
Isopropylbenzene	EPA 8260B	7E09008	0.25	1.0	ND	1	05/09/07	05/09/07	
					• •	•		•	

TestAmerica - Irvine, CA

Nicholas Marz

Project Manager

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/1/19/00

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ANALYTICAL TESTING CORPORATION

17461 Derian Avenue. Suite 100. Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing 701 N. Parkcenter Drive

Project ID: Boeing C-6 Torrance

EM2727

Sampled: 05/08/07

Santa Ana, CA 92705 Attention: Clara Boeru Report Number: 1QE0801

Received: 05/08/07

#### **VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)**

			MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IQE0801-01 (TMW_07_WC	G050807_0001 - W	ater) - cont.			Sample	d: 05/08/0	)7		
Reporting Units: ug/l					•				
p-lsopropyltoluene	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7E09008	0.32	1.0	ND	1	05/09/07	05/09/07	
Methylene chloride	EPA 8260B	7E09008	0.95	1.0	ND	1	05/09/07	05/09/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7E09008	3.5	5.0	ND	1	05/09/07	05/09/07	
n-Propylbenzene	EPA 8260B	7E09008	0.27	1.0	ND	1	05/09/07	05/09/07	
Styrene	EPA 8260B	7E09008	0.16	1.0	ND	1	05/09/07	05/09/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7E09008	0.27	1.0	ND	1	05/09/07	05/09/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7E09008	0.24	1.0	ND	1	05/09/07	05/09/07	
Tetrachloroethene	EPA 8260B	7E09008	0.32	1.0	1.3	1	05/09/07	05/09/07	
Tetrahydrofuran (THF)	EPA 8260B	7E09008	3.5	10	ND	1	05/09/07	05/09/07	
Toluene	EPA 8260B	7E09008	0.36	1.0	ND	1	05/09/07	05/09/07	
1,2,3-Trichlorobenzene	EPA 8260B	7E09008	0.30	1.0	ND	1	05/09/07	05/09/07	
1,2,4-Trichlorobenzene	EPA 8260B	7E09008	0.48	1.0	ND	1	05/09/07	05/09/07	
1,1,2-Trichloroethane	EPA 8260B	7E09008	0.30	1.0	7.8	1	05/09/07	05/09/07	
1,1,1-Trichloroethane	EPA 8260B	7E09008	0.30	1.0	ND	1	05/09/07	05/09/07	
Trichlorofluoromethane	EPA 8260B	7E09008	0.34	2.0	ND	1	05/09/07	05/09/07	
1,2,3-Trichloropropane	EPA 8260B	7E09008	0.40	1.0	ND	1	05/09/07	05/09/07	
1,2,4-Trimethylbenzene	EPA 8260B	7E09008	0.23	1.0	ND	1	05/09/07	05/09/07	
1,3,5-Trimethylbenzene	EPA 8260B	7E09008	0.26	1.0	ND	1	05/09/07	05/09/07	
Vinyl acetate	EPA 8260B	7E09008	1.7	6.0	ND	1	05/09/07	05/09/07	
Vinyl chloride	EPA 8260B	7E09008	0.30	0.50	ND	1	05/09/07	05/09/07	
Xylenes, Total	EPA 8260B	7E09008	0.90	1.0	ND	I	05/09/07	05/09/07	
Surrogate: 4-Bromofluorobenzene (80-120	0%)				97 %				
Surrogate: Dibromofluoromethane (80-12	0%)				95 %				
Surrogate: Toluene-d8 (80-120%)					113 %				

**TestAmerica - Irvine, CA**Nicholas Marz
Project Manager

/1/19/10

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ANALYTICAL TESTING CORPORATION

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TAIT Environmental/Boeing 701 N. Parkcenter Drive

Project ID: Boeing C-6 Torrance

EM2727

Sampled: 05/08/07

Santa Ana, CA 92705 Attention: Clara Boeru Report Number: IQE0801

Received: 05/08/07

#### **VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0801-01RE1 (TMW_0	7_WG050807_0001	- Water) - co	nt.		Sample	ed: 05/08/0	7		
Reporting Units: ug/l									
Trichloroethene	EPA 8260B	7E10021	5.2	20	1700	20	05/10/07	05/10/07	
Surrogate: 4-Bromofluorobenzene (80-1	20%)				99 %				
Surrogate: Dibromofluoromethane (80-1	(20%)				89 %				
Surrogate: Toluene-d8 (80-120%)					105 %				

**TestAmerica - Irvine, CA** Nicholas Marz Project Manager

IQE0801 <Page 4 of 66>

LDC #:	17079A1 <b>VALIDATIOI</b>	N COMP	PLETENESS WORKSHEET Date: 1/16
	: IQE0801 tory: Test America		Tier 1 Page:6f/ Reviewer:
		d 0060E	2nd Reviewer:
	OD: GC/MS Volatiles (EPA SW 846 Meth		
	mples listed below were reviewed for each ed validation findings worksheets.	ch of the f	ollowing validation areas. Validation findings are noted in
<u> </u>			time to cooldown Comments
	Validation Area		Comments
<u> </u>	Technical holding times	Δ	Sampling dates: 5 x 0 7
II.	GC/MS Instrument performance check	N	
111.	Initial calibration	N	
IV.	Continuing calibration	N	
V.	Blanks	Δ	
VI.	Surrogate spikes	Δ	
VII.	Matrix spike/Matrix spike duplicates	N	chint specified
VIII.	Laboratory control samples	JW.	Les
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	7	
XVI.	Field duplicates	N	
XVII.	Field blanks	$\vee$	

Note:

A = Acceptable N = Not provided/applicable SW = See worksheet

ND = No compounds detected R = Rinsate FB = Field blank

D = Duplicate TB = Trip blank EB = Equipment blank

Validated Samples:

	waur					
1	ンこら TMW_07_WG050807_0001	11\	7E09008-BLK1	21	31	
2 3		12 2	7E10021-BLK)	22	32	
3		13		23	33	
4		14		24	 34	
4 5 6 7 8 9		15		25	35	
6		16		26	36	
7		17		27	37	
8		18		28	 38	
9		19		29	39	
10		20		30	40	

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Inchlorofluoromethane		
B. Bromomethane	T. Dibromochioromethane	District to Francisco	CCC, ten-butyfbenzene	UUU. 1,2-Dichiorotetrafluoroethane
C. Vioy chordes:		ברי ועמוואן יפון-סתואן פוחפר	DDD, 1,2,4-Trimethylbenzene	VVV. 4-Ethyltotuene
BO100 (f	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	אייייין איייין איייין איייין איייין אייייין	
E. Methylene chloride	W. trans-1,3-Dichloropropana	00. 2.2-Dichlomomass	- 1.3-Ekanotobenzene	XXX. Di-Isopropyl ether
F. Acetone	X Brancham•		GGG. p-isopropyitoluene	YYY. tert-Butanol
		PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcobol
G. Carbon disuffide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	E Buttellanden	
H. 1,1.Dichloroethene**	Z. 2-Hexanone	RR Dipomomethene	1-01/501/501/50	AAAA. Ethyl tert-butyl ether
I. 1,1-Dichloroethane⁴	AA. Tetrachlomethans		JJJ. 1,Z-Dichlorobenzene	BBBB. tert-Amyl methyl ether
2.0		SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
3. 1,2.Dichlorethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	Ltt. Hexachlombidedlene	
K. Chloroform**	CC. Toluene**	111 1 1 2 Total and 1		UDUU. Isopropyi alcohol
L. 12-Dichlomethess		Co. 1,1,1,2-1eu acilioroemane	MMM. Naphthalene	EEEE. Acetonitrile
	DD. Chlombenzene*	VV. Isopropytbenzene	NNN. 1.2.3-Trichlorobenzene	SECT Appella
M. 2-Butanone	EE. Ethylbenzane**	WW. Bromobenzene	OOO 13 E-Tdoblomban	
N. 1,1,1-Trichloroethane	FF. Styrene	XX 1.2.3-Tricplomomosas		GGGG, Actyonitrie
O. Carbon tetrachioride	GG. Xylenes, total		rrr. trans-1,2-Uchloroethene	HHHH. 1,4-Dioxane
P. Bromodichloromethans		o control cont	QQQ. cls-1,2-Dichioroethene	IIII. Isobutyi alcohol
	nn. Vinyi acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacylonlifile
Q. 1,2-Dichlompropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xvene	
R. cls-1,3-Dichlompropene	JJ. Dichlomalfluoromethane	BBB 4-Chlosophian		NNNK. Propionitale
			111.1,1,2-Trichloro-1,2,2-trifluoroethane	דווו

\* = System performance check compounds (SPCC) for RRF; \*\* = Calibration check compounds (CCC) for %RSD.

DC #: 17079A DG #: ISEOXO

Page:

2nd Reviewer: Reviewer:

VALIDATION FINDINGS WORKSHEET Laboratory Control Samples (LCS)

IETHOD: GC/MS VOA (EPA SW 846 Method 8260B)

lease see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

A N/A A/M N

Was a LCS required? Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

			-					<u> </u>														<del></del> -		
Qualifications	1/p sut															-								
Associated Samples	All + BlanK	1														-								
RPD (Limits)	( )	(, )	(		(	( )	( )	( )	( )	( )	( , )	( )	(	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
LCSD %R (Limits)	( )	( )			(	( )	( )	( )	( )	( )	( )	( )	( )	( )	(	( )	( )	( )	( )	( )	( )	( )	( )	(
LCS %R (Limits)	141 (65-140)		(	)	( )	( )	( )	( )	( )		(	· ·	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	(
Compound	99																							
TCS/TCSD ID	1809008-831																							
Date																								
34.		i		, 1			i	• !	1	1	ī	i	)	1	1	1	44	1	4		4	1	1	

## Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Boeing Realty Corp., Bldg C-6 Facility

**Collection Date:** 

May 9, 2007

**LDC Report Date:** 

July 17, 2007

Matrix:

Water

Parameters:

Volatiles

Validation Level:

Tier 2

Laboratory:

**TestAmerica** 

Sample Delivery Group (SDG): IQE0963

Sample Identification

WCC\_12\_WG050907\_0001

WCC 12 WG050907 0001MS

WCC\_12\_WG050907\_0001MSD

#### Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

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Field duplicates are summarized in Section XVI.

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- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

#### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination  $(r^2)$  were greater than or equal to 0.990.

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
4/19/07	2-Butanone	0.044 (≥0.05)	All samples in SDG IQE0693	J (all detects) UJ (all non-detects)	A

#### IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
5/11/07	2-Butanone	0.045 (≥0.05)	All samples in SDG IQE0963	J (all detects) UJ (all non-detects)	А

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

#### IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

#### XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

#### XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

#### XIV. System Performance

Raw data were not reviewed for this SDG.

#### XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

#### XVI. Field Duplicates

No field duplicates were identified in this SDG.

#### XVII. Field Blanks

No field blanks were identified in this SDG.

#### Boeing Realty Corp., Bldg C-6 Facility Volatiles - Data Qualification Summary - SDG IQE0963

SDG	Sample	Compound	Flag	A or P	Reason
IQE0963	WCC_12_WG050907_0001	2-Butanone	J (all detects) UJ (all non-detects)	А	Initial calibration (RRF)
IQE0963	WCC_12_WG050907_0001	2-Butanone	J (all detects) UJ (all non-detects)	А	Continuing calibration (RRF)

Boeing Realty Corp., Bldg C-6 Facility Volatiles - Laboratory Blank Data Qualification Summary - SDG IQE0963

No Sample Data Qualified in this SDG



17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax: (949) 260-3297

TAIT Environmental/Boeing

701 N. Parkcenter Drive

Santa Ana, CA 92705 Attention: Clara Boeru Project ID: Boeing C-6 Torrance

EM2727

Report Number: 1QE0963

Sampled: 05/09/07

Received: 05/09/07

#### **VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0963-04 (WCC_12_V	VG050907_0001 - Ws	ster)			Somple	d: 05/09/(	17		
Reporting Units: ug/l		,			Sample	4. 05/05/0	, ,		
Acetone	EPA 8260B	7E11006	4.5	10	'ND	1	05/11/07	05/11/07	
Benzene	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	
Bromobenzene	EPA 8260B	7E11006	0.27	1.0	ND	1	05/11/07	05/11/07	
Bromochloromethane	EPA 8260B	7E11006	0.32	1.0	ND	1	05/11/07	05/11/07	
Bromodichloromethane	EPA 8260B	7E11006	0.30	1.0	ND	1	05/11/07	05/11/07	
Bromoform	EPA 8260B	7E11006	0.40	1.0	ND	1	05/11/07	05/11/07	
Bromomethane	EPA 8260B	7E11006	0.42	1.0	ND	1	05/11/07	05/11/07	
2-Butanone (MEK)	EPA 8260B	7E11006	3.8	5.0	ND	1	05/11/07	05/11/07 L	П
n-Butylbenzene	EPA 8260B	7E11006	0.37	1.0	ND	1	05/11/07	05/11/07	
sec-Butylbenzene	EPA 8260B	7E11006	0.25	1.0	ND	1	05/11/07	05/11/07	
tert-Butylbenzene	EPA 8260B	7E11006	0.22	1.0	ND	1	05/11/07	05/11/07	
Carbon Disulfide	EPA 8260B	7E11006	0.48	1.0	ND	1	05/11/07	05/11/07	•
Carbon tetrachloride	EPA 8260B	7E11006	0.28	0.50	ND	3	05/11/07	05/11/07	
·Chlorobenzene	EPA 8260B	7E11006	0.36	1.0	ND	1	05/11/07	05/11/07	
Chloroethane	EPA 8260B	7E11006	0.40	2.0	ND	1	05/11/07	05/11/07	
Chloroform	EPA 8260B	7E11006	0.33	1.0	2.7	1	05/11/07	05/11/07	
Chloromethane	EPA 8260B	7E11006	0.40	2.0	ND	1	05/11/07	05/11/07	
2-Chlorotoluene	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	
4-Chlorotoluene	EPA 8260B	7E11006	0.29	1.0	ND	1	05/11/07	05/11/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7E11006	0.97	2.0	ND	7	05/11/07	05/11/07	
Dibromochloromethane	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	•
1,2-Dibromoethane (EDB)	EPA 8260B	7E11006	0.40	1.0	ND	1	05/11/07	05/11/07	
1,4-Dichlorobenzene	EPA 8260B	7E11006	0.37	1.0	ND	I	05/11/07	05/11/07	
1,2-Dichlorobenzene	EPA 8260B	7E11006	0.32	1.0	ND	1	05/11/07	05/11/07	
1,3-Dichlorobenzene	EPA 8260B	7E11006	0.35	1.0	ND	1	05/11/07	05/11/07	
Dichlorodifluoromethane	EPA 8260B	7E11006	0.79	1.0	ND	1	05/11/07	05/11/07	
1,2-Dichloroethane	EPA 8260B	7E11006	0.28	0.50	ND	1	05/11/07	05/11/07	
1,1-Dichloroethane	EPA 8260B	7E11006	0.27	1.0	12	1	05/11/07	05/11/07	
1,1-Dichloroethene	EPA 8260B	7E11006	0.42	1.0	13	I	05/11/07	05/11/07	
cis-1,2-Dichloroethene	EPA 8260B	7E11006	0.32	1.0	0.97	1	05/11/07	05/11/07	J
trans-1,2-Dichloroethene	EPA 8260B	7E11006	0.27	1.0	ND	1	05/11/07	05/11/07	
1,2-Dichloropropane	EPA 8260B	7E11006	0.35	1.0	ND	1	05/11/07	05/11/07	
2,2-Dichloropropane	EPA 8260B	7E11006	0.34	1.0	ND.	1	05/11/07	05/11/07	
cis-1,3-Dichloropropene	EPA 8260B	7E11006	0.22	0.50	ND	1	05/11/07	05/11/07	
1,1-Dichloropropene	EPA 8260B	7E1 1006	0.28	1.0	ND	1	05/11/07	05/11/07	
trans-1,3-Dichloropropene	EPA 8260B	7E11006	0.32	0.50	ND	1	05/11/07	05/11/07	
Ethylbenzene	EPA 8260B	7E11006	0.25	1.0	ND	1	05/11/07	05/11/07	
Hexachlorobutadiene	EPA 8260B	7E11006	0.38	.1.0	ND	. 1	05/11/07	05/11/07	
2-Hexanone	EPA 8260B	7E11006	2.6	6.0	ND	· · 1	05/11/07	05/11/07	
Iodomethane	EPA 8260B	7E11006	1.0	2.0	ND	1	05/11/07	05/11/07	
Isopropylbenzene	EPA 8260B	7E11006	0.25	1.0	ND	1	05/11/07	05/11/07	
TestAmerica - Irvine, CA									

Nicholas Marz

Project Manager

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### Test/America ANALYTICAL TESTING CORPORATION

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax: (949) 260-3297

TAIT Environmental/Boeing

701 N. Parkcenter Drive

Santa Ana, CA 92705 Attention: Clara Boeru Project ID: Boeing C-6 Torrance

EM2727

Report Number: IQE0963

Sampled: 05/09/07

Received: 05/09/07

#### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

N Barda	Matta	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Analyte	Method	DHICH	CHAIL	Limit	Kesun	ractor	EAU acteu	Anaiyzcu	Z marrow p
Sample ID: IQE0963-04 (WCC_12_WG	050907_0001 - Wa	iter) - cont.			Sample	d: 05/09/0	07		
Reporting Units: ug/l									
p-lsopropyltoluene	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7E11006	0.32	1.0	ND	1	05/11/07	05/11/07	
Methylene chloride	EPA 8260B	7E11006	0.95	1.0	1.6	1	05/11/07	05/11/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7E11006	3.5	5.0	ND	1	05/11/07	05/11/07	
n-Propylbenzene	EPA 8260B	7E11006	0.27	1.0	ND	1	05/11/07	05/11/07	
Styrene	EPA 8260B	7El 1006	0.16	1.0	ND	1	05/11/07	05/11/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7E11006	0.27	1.0	ND	. 1	05/11/07	05/11/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7E11006	0.24	1.0	ND	1	05/11/07	05/11/07	
Tetrachioroethene	EPA 8260B	7E11006	0.32	1.0	0.93	1	05/11/07	05/11/07	J
Tetrahydrofuran (THF)	EPA 8260B	7E11006	3.5	10	ND	1	05/11/07	05/11/07	
Toluene	EPA 8260B	7E11006	0.36	1.0	ND	1	05/11/07	05/11/07	
1,2,3-Trichlorobenzene	EPA 8260B	7E11006	0.30	1.0	ND	1	05/11/07	05/11/07	
1,2,4-Trichlorobenzene	EPA 8260B	7E11006	0.48	1.0	ND	1	05/11/07	05/11/07	
1,1,2-Trichloroethane	EPA 8260B	7E11006	0.30	1.0	0.33	Ì	05/11/07	05/11/07	J
1,1,1-Trichloroethane	EPA 8260B	7E11006	0.30	1.0	ND	1	05/11/07	05/11/07	
Trichloroethene	EPA 8260B	7E11006	0.26	1.0	110	1	05/11/07	05/11/07	
Trichlorofluoromethane	EPA 8260B	7E11006	0.34	2.0	ND	1	05/11/07	05/11/07	
1,2,3-Trichloropropane	EPA 8260B	7E11006	0.40	1.0	ND	1	05/11/07	05/11/07	
1,2,4-Trimethylbenzene	EPA 8260B	7E11006	0.23	1.0	ND	1	05/11/07	05/11/07	
1,3,5-Trimethylbenzene	EPA 8260B	7E11006	0.26	1.0	ND	1	05/11/07	05/11/07	
Vinyl acetate	EPA 8260B	7E11006	1.7	6.0	ND	1	05/11/07	05/11/07	
Vinyl chloride	EPA 8260B	7E11006	0.30	0.50	ND	1	05/11/07	05/11/07	
Xylenes, Total	EPA 8260B	7E11006	0.90	1.0	ND	1	05/11/07	05/11/07	
Surrogate: 4-Bromofluorobenzene (80-120	1%)				84 %				
Surrogate: Dibromofluoromethane (80-12)	0%)			•	.98 %				
Surrogate: Toluene-d8 (80-120%)					102 %				

TestAmerica - Irvine, CA Nicholas Marz . Project Manager

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#### **VALIDATION COMPLETENESS WORKSHEET** LDC #: 17079B1 Tier 2 SDG #: IQE0963 Laboratory: Test America

Date:_	7/16/07
Page:_    Reviewer	∠of
2nd Reviewer:_	

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	Δ	Sampling dates: 5 9 0 7
II.	GC/MS Instrument performance check	Δ	, ,
-111.	Initial calibration	کی	% RSD, ( 20.990
IV.	Continuing calibration/	SVAV	,
V.	Blanks	Δ	
VI.	Surrogate spikes		
VII.	Matrix spike/Matrix spike duplicates	Ā	
VIII.	Laboratory control samples	Д	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	٨	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	Ą	
XVI.	Field duplicates	V.	
XVII.	Field blanks	N	

Note:

A = Acceptable N = Not provided/applicable SW = See worksheet

ND = No compounds detected

R = Rinsate

FB = Field blank

D = Duplicate

TB = Trip blank

EB = Equipment blank

Validated Samples:

	water					
1	WCC_12_WG050907_0001	† 11	7E11006 - BLY1	21	31	
2	WCC_12_WG050907_0001MS	12		22	32	
3	WCC_12_WG050907_0001MSD	13		23	33	
4		14		24	34	
5		15		25	35	
6		16		26	36	
7		17		27	37	
8		18		28	38	
9		19		29	39	
10		20		30	40	

# TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	COC total But Albertage	
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-hittyl ether		UUU. 1,2-Dichlorotetrafluoroethane
G. Vinyl choride**	11 A 2 O HACKLES OF THE PROPERTY OF THE PROPER		700. 1,4,4-1 mremyipenzene	VVV. 4-Ethyltotuene
	U. I, I,z-I nchloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlombenzene	AXX III Limited III
E. Methylene chloride	W. trans-1,3-Dichloropropene	OD. 2,2-Dichloropropane	GGG 0-1sonmulations	initia idoldosta por
F, Acetone	X. Bromoform*	PP, Bromochloromethane	HHH 1 4-Dichiomberson	TTT. ten-Butanol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	OO 11-Dichlomana		277. ten-Butyl alcohol
H. 1.1-Dichlomethene	7 0 1		III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
	4. Z-nexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB, tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK 1.2 4-Trichlomberrane	
J. 1,2-Dichloroethene, total	BB. 1.1.2.2-Tetrachlomethens*	1007		CCC. 1-Chioronexane
2		11.1,2-Dipromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chlorotorm	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	FEEF Action India
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN 12.3-Trichlombergera	
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromoberzene		TTT. Actolein
N. 1,1,1-Trichloroethane	FF. Styrene	XX 1.3-Talahlamasara	CO. 1.5.1. HGRIODORIZANE	GGGG. Acrylonitrile
			PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY, n-Propylbenzene	QQQ. cls-1,2-Dichloroethene	III. teobrity alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRB m n-Xvlanae	
Q. 1,2-Dichloropropane**	ii. 2-Chloroethylvinyl ether	AAA 13 S-Irimethytheorean		osso, meniacrytonitrie
B class 3-0 Holder		- 1	ooo. o-Aylene	KKKK, Proplonitrite
	JJ. Ulchlorodifluoromethane	BBB, 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluomethane	רווו

<sup>\* =</sup> System performance check compounds (SPCC) for RRF; \*\* = Calibration check compounds (CCC) for %RSD.

LDC #. 17079B] SDG #. I QEO963

# VALIDATION FINDINGS WORKSHEET Initial Calibration

2nd Reviewer: Page: Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A". N N N

Did the laboratory perform a 5 point calibration prior to sample analysis?

Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's? Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?

Were all %RSDs and RRFs within the validation criteria of <30 %RSD and >0.05 RRF? Did the initial calibration meet the acceptance criteria?

N N N N N N Y/N N/A

		<del></del>		<del></del>	<del>-</del>	 	 		 	 	<u>1</u>	T	 <del>- 7</del>	<del></del>	<del>- i</del>	<del></del> ï	<del>-</del> -	<del></del>	-	1
Qualifications	7/m/A																			
Associated Samples	A11 + B1K																			
Finding RRF (Limit: <u>&gt;</u> 0.05)	0.04V																			
Finding %RSD (Limit: <30.0%)							-													
Compound	W																			
Standard ID	1CAL - GRASS9		-																	
# Date	1												-							

LDC# TOPOB | SDG# IREONES

# **VALIDATION FINDINGS WORKSHEET** Continuing Calibration

Page: / of Reviewer. 2nd Reviewer:

> Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A". METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Was a continuing calibration standard analyzed at least once every 12 hours for each instrument? Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ? Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF?

			Ī													
Qualifications	7/rn/r															
Associated Samples	A11 181K															
Finding RRF (Limit: ≥0.05)	0.045															
Finding %D (Limit: <25.0%)																
Compound	¥												•			
Standard ID	L0/11/5															
# Date		6:30AM												;		

# Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** 

Boeing Realty Corp., Bldg. C-6 Facility

**Collection Date:** 

May 10, 2007

**LDC Report Date:** 

July 17, 2007

Matrix:

Water

Parameters:

Volatiles

Validation Level:

Tier 3

Laboratory:

**TestAmerica** 

Sample Delivery Group (SDG): IQE1077

Sample Identification

AW0066UB\_WG051007\_0001

#### Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

#### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r²) were greater than or equal to 0.990.

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

#### IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
5/13/07	Trichlorofluoromethane Methylene chloride 2,2-Dichloropropane 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dichloroethene, total Dibromochloromethane Hexachlorobutadiene	29.0 27.6 69.7 26.6 50.6 30.8 36.4 28.7	AW0066UB_WG051007_0001 7E13009-BLK1	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
5/12/07	2-Butanone	0.042 (≥0.05)	AW0066UB_WG051007_0001 7E12009-BLK1	J (all detects) UJ (all non-detects)	A
5/13/07	2-Butanone	0.040 (≥0.05)	AW0066UB_WG051007_0001 7E13009-BLK1	J (all detects) UJ (all non-detects)	А

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
7E13009-LCS	2,2-Dichloropropane	156 (65-140)	All samples in SDG IQE1077	J (all detects)	Р

#### IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

All target compound identifications were within validation criteria.

#### XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

#### XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

#### XIV. System Performance

The system performance was acceptable.

#### XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

#### XVI. Field Duplicates

No field duplicates were identified in this SDG.

#### XVII. Field Blanks

No field blanks were identified in this SDG.

#### Boeing Realty Corp., Bldg. C-6 Facility Volatiles - Data Qualification Summary - SDG IQE1077

SDG	Sample	Compound	Flag	A or P	Reason
IQE1077	AW0066UB_WG051007_0001	Trichlorofluoromethane Methylene chloride 2,2-Dichloropropane 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dichloroethene, total Dibromochloromethane Hexachlorobutadiene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
IQE1077	AW0066UB_WG051007_0001	2-Butanone	J (all detects) UJ (all non-detects)	А	Continuing calibration (RRF)
IQE1077	AW0066UB_WG051007_0001	2,2-Dichloropropane	J (all detects)	Р	Laboratory control samples (%R)

Boeing Realty Corp., Bldg. C-6 Facility Volatiles - Laboratory Blank Data Qualification Summary - SDG IQE1077

No Sample Data Qualified in this SDG



17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing

701 N. Parkcenter Drive Santa Ana, CA 92705

Attention: Clara Boeru

Project ID: Boeing C-6 Torrance

EM2727

Report Number: IQE1077

Sampled: 05/10/07

Received: 05/10/07

#### **VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution	Date Extracted	Date Analyzed	Data Oualifiers
Analyte	METHOD	Daku .	Limit	Limit	resur	1 44401	Danacaa	222033200	<b>C</b>
Sample ID: IQE1077-01 (AW0066UB_V	/G051007_0001 - `	Water)							
Reporting Units: ug/l		********	4000	5000	100000	1000	05/10/07	05/10/07	J
2-Butanone (MEK)	EPA 8260B	7E12009	4700	5000	120000	1000	05/12/07	05/12/07	7
Surrogate: 4-Bromofluorobenzene (80-12)					97 % 97 %				
Surrogate: Dibromofluoromethane (80-12	10%)		•		97 % 109 %				
Surrogate: Toluene-d8 (80-120%)					109 70				
Sample ID: IQE1077-01RE1 (AW0066U	B_WG051007_00	01 - Water)				•			
Reporting Units: ug/l					****	0.50		05/10/05	
Acetone	EPA 8260B	7E13009	1100	2500	18000	250	05/13/07	05/13/07	
Benzene	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	
Bromobenzene	EPA 8260B	7E13009	68	250	ND .	250	05/13/07	05/13/07	
Bromochloromethane	EPA 8260B	7E13009	80	250	ND	.250	05/13/07	05/13/07	
Bromodichloromethane	EPA 8260B	7E13009	75	250	ND	.250	05/13/07	05/13/07	
Bromoform	EPA 8260B	7E13009	100	250	ND	250	05/13/07	05/13/07	
Bromomethane	EPA 8260B	7E13009	100	250	ND	.250	05/13/07	05/13/07	
n-Butylbenzene	EPA 8260B	7E13009	92	250	ND	250	05/13/07	05/13/07	
sec-Butylbenzene	EPA 8260B	7E13009	62	250	ND	250	05/13/07	05/13/07	
tert-Butylbenzene	EPA 8260B	7E13009	55	250	ND	250	05/13/07	05/13/07	
Carbon Disulfide	EPA 8260B	7E13009	120	250	ND	250	05/13/07	05/13/07	4 -
Carbon tetrachloride	EPA 8260B	7E13009	70	120	ND	250	05/13/07	05/13/07 M	13 C
Chlorobenzene	EPA 8260B	7E13009	90	250	ND	250	05/13/07	05/13/07	
Chloroethane	EPA 8260B	7E13009	100	500	ND	250	05/13/07	05/13/07	
Chloroform	EPA 8260B	7E13009	82	250	ND	250	05/13/07	05/13/07	
Chloromethane	EPA 8260B	7E13009	100	500	ND	250	05/13/07	05/13/07	
2-Chlorotoluene	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	
4-Chlorotoluene	EPA 8260B	7E13009	72	250	ND	250	05/13/07	05/13/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7E13009	240	500	ND	250	05/13/07	05/13/07	_
Dibromochloromethane	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07 M	
1,2-Dibromoethane (EDB)	EPA 8260B	7E13009	100	250	ND	250	05/13/07	05/13/07	
1,4-Dichlorobenzene	EPA 8260B	7E13009	92	250	ND	250	05/13/07	05/13/07	
1,2-Dichlorobenzene	EPA 8260B	7E13009	80	250	ND	250	05/13/07	05/13/07	
1,3-Dichlorobenzene	EPA 8260B	7E13009	88	250	ND	250	05/13/07	05/13/07	
Dichlorodifluoromethane	EPA 8260B	7E13009	200	250	ND	250	05/13/07	05/13/07	_
1,2-Dichloroethane	EPA 8260B	7E13009	70	120	340	250	05/13/07	05/13/07	1
1,1-Dichloroethane	EPA 8260B	7E13009	68	250	1100	250	05/13/07	05/13/07	
1,1-Dichloroethene	EPA 8260B	7E13009	100	250	7300	250	05/13/07	05/13/07	
cis-1,2-Dichloroethene	EPA 8260B	7E13009	80	250	8400	250	05/13/07	05/13/07	
trans-1,2-Dichloroethene	. EPA 8260B	7E13009	68	250	360	250	05/13/07	05/13/07	
1,2-Dichloropropane	EPA 8260B	7E13009	88	250	ND	250	05/13/07	05/13/07	
2,2-Dichloropropane	EPA 8260B	7E13009	85	250	ND	250	05/13/07	05/13/07 <b>M</b>	J C, L
cis-1,3-Dichloropropene	EPA 8260B	7E13009	55	120	ND	250	05/13/07	05/13/07	
1,1-Dichloropropene	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	
• •									

TestAmerica - Irvine, CA

Nicholas Marz

Project Manager

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/1/19W

# Test America

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax: (949) 260-3297

TAIT Environmental/Boeing

701 N. Parkcenter Drive Santa Ana, CA 92705 Attention: Clara Boeru Project ID: Boeing C-6 Torrance

EM2727

Report Number: IQE1077

Sampled: 05/10/07

Received: 05/10/07

#### **VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)**

			MDL	Reporting	•	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IQE1077-01RE1 (AW0066U	B_WG051007_00	01 - Water) -	cont.	_					
Reporting Units: ug/l		_		-					
trans-1,3-Dichloropropene	EPA 8260B	7E13009	80	120	ND	250	05/13/07	05/13/07	
Ethylbenzene	EPA 8260B	7E13009	62	250	. ND	250	05/13/07	05/13/07	
Hexachlorobutadiene	EPA 8260B	7E13009	95	250	ND	250	05/13/07	05/13/07 L	17
2-Hexanone	EPA 8260B	7E13009	650	1500	ND	250	05/13/07	05/13/07	
·lodomethane	EPA 8260B	7E13009	250	500	ND	250	05/13/07	05/13/07	
Isopropylbenzene	EPA 8260B	7E13009	62	250	ND	250	05/13/07	05/13/07	
p-Isopropyltoluene	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7E13009	80	250	ND	250	05/13/07	05/13/07	_
Methylene chloride	EPA 8260B	7E13009	240	250	ND	250	05/13/07	05/13/07 V	13
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7E13009	880	1200	16000	250	05/13/07	05/13/07	
n-Propylbenzene	EPA 8260B	.7E13009	68	.250	ND	250	05/13/07	05/13/07	•
Styrene	EPA 8260B	7E13009	40	250	ND	250	05/13/07	05/13/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7E13009	68	250	ND	250	. 05/13/07	05/13/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7E13009.	60	250	ND	250	05/13/07	05/13/07	
Tetrachloroethene	EPA 8260B	7E13009	80	250	ND	250	05/13/07	05/13/07	
Tetrahydrofuran (THF)	EPA 8260B	7E13009	880	2500	1800	250	05/13/07	05/13/07	J
Toluene	EPA 8260B	7E13009	90	250	8700	250	05/13/07	05/13/07	
1,2,3-Trichlorobenzene	EPA 8260B	7E13009	75	250	ND	250	05/13/07	05/13/07	
1,2,4-Trichlorobenzene	EPA 8260B	7E13009	120	250	ND	250	05/13/07	05/13/07	
1,1,2-Trichloroethane	EPA 8260B	7E13009	7.5	250	110	250	05/13/07	05/13/07	_ J
1,1,1-Trichloroethane	EPA 8260B	7E13009	75	250	ND	250	05/13/07	05/13/07 V	:3
Trichloroethene	EPA 8260B	7E13009	65	250	100	.250	05/13/07	05/13/07	J
Trichlorofluoromethane	EPA 8260B	7E13009	85	500	ND	250	05/13/07	05/13/07 U	J
1,2,3-Trichloropropane	EPA 8260B	7E13009	100	250	ND	250	05/13/07	05/13/07	
1,2,4-Trimethylbenzene	EPA 8260B	7E13009	58	250	ND	250	05/13/07	05/13/07	
1,3,5-Trimethylbenzene	EPA 8260B	7E13009	65	250	ND	250	05/13/07	05/13/07	•
Vinyl acetate	EPA 8260B	7E13009	250	1500	ND	250	05/13/07	.05/13/07	٠. ـ
Vinyi chloride	EPA 8260B	7E13009	<b>7</b> 5	120	220	250	05/13/07	05/13/07	
Xylenes, Total	EPA 8260B	7E13009	220	. 250	ND	250	05/13/07	05/13/07	
Surrogate: 4-Bromofluorobenzene (80-120	%)				102 %				•
Surrogate: Dibromofluoromethane (80-120	n%)			•	101 %				
Surrogate: Toluene-d8 (80-120%)	-				110 %		•		

TestAmerica - Irvine, CA Nicholas Marz Project Manager 1/19/0

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#### LDC #: 17079C1 **VALIDATION COMPLETENESS WORKSHEET** Tier 3 SDG #: IQE1077 Laboratory: Test America Reviewer: 2nd Reviewer: METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B) The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets. Validation Area Comments Technical holding times Sampling dates: 11. GC/MS Instrument performance check RSD III. Initial calibration SW Continuing calibration/ IV. V. **Blanks** VI. Surrogate spikes N client VII. Matrix spike/Matrix spike duplicates SW VIII. LC> Laboratory control samples IX. Regional Quality Assurance and Quality Control Ν Δ X. Internal standards Δ XI. Target compound identification Δ XII. Compound quantitation/CRQLs N XIII. Tentatively identified compounds (TICs) not XIV. System performance A XV. Overall assessment of data XVI. Field duplicates Field blanks XVII. Note: A = Acceptable ND = No compounds detected D = Duplicate N = Not provided/applicable R = Rinsate TB = Trip blank SW = See worksheet EB = Equipment blank FB = Field blank Validated Samples:

	walk					
1 \	<b>プニ M</b> AW0066UB_WG051007_0001	11\	7E13009-B14)	21	31	
2		127	7E12009-BL4)	22	32	
3		13		23	 33	
4		14		24	 34	
5		15		25	 35	
6		16		26	 36	
7		17		27	37	
8		18		28	 38	
9		19		29	39	
10_		20		30	 40	

_DC #:	17679	101
SDG #:	JaE	
	<b>)</b>	

#### **VALIDATION FINDINGS CHECKLIST**

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area  Ves No NA Findings/Comments  All technical holding times were met.  Cooler temperature criteria was met.  Were the BFB performance results reviewed and found to be within the specified criteria?  Were all samples analyzed within the 12 hour clock criteria?  Bittle: Bi	Method: Volatiles (EPA SW 846 Method 8260B)				
All technical holding times were met.  Cooler temperature criteria was met.  Were the BFB performance results reviewed and found to be within the specified criteria?  Were all samples analyzed within the 12 hour dock criteria?  Were all parcent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.097  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.057  Statistics of the initial calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	Validation Area	Yes	No	NA	Findings/Comments
Cooler temperature criteria was met.  Were the BFB performance results reviewed and found to be within the specified criteria?  Were all samples analyzed within the 12 hour clock criteria?  Were all samples analyzed within the 12 hour clock criteria?  Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCOs and SPCCs?  Was a curve fit used for evaluation.  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) ≥ 0.05?  Were all percent differences (%D) ≥ 25% and relative response factors (RRF) ≥ 0.05?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a renally sis performed to confirm samples with %R outside of criteria?	TWO CINICADO OF THE STATE OF TH				
Were the BFB performance results reviewed and found to be within the specified criteria?  Were all samples analyzed within the 12 hour clock criteria?  Did the laboratory perform a 5 point calibration prior to sample analysis?  Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Was a curve fit used for evaluation?  Did the Initial calibration meet the curve fit acceptance criteria of ≥ 0.990?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  ### Additional Participation  Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was a method stank analyzed at least once every 12 hours for each matrix and concentration?  Was a method stank analyzed at least once every 12 hours for each matrix and concentration?  Was a method stank analyzed at least once every 12 hours for each matrix and concentration?  Was a method stank analyzed at least once every 12 hours for each matrix and concentration?  Was a method stank analyzed at least once every 12 hours for each matrix and concentration?  Was a method stank analyzed at least once every 12 hours for each matrix and concentration?  Was a method stank analyzed at least once every 12 hours for each matrix and concentration?  Were all surrogate %R within OC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a renalysis performed to confirm samples with %R outside of criteria?	All technical holding times were met.				
Were all samples analyzed within the 12 hour clock criteria?  Were all samples analyzed within the 12 hour clock criteria?  Were all samples analyzed within the 12 hour clock criteria?  Did the laboratory perform a 5 point calibration prior to sample analysis?  Were all percent relative standard deviations (%RSD) and relative response factors ((RRF) within method criteria for all CCCs and SPCCs?  Was a curve fit used for evaluation?  Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  ### Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≥ 25% and relative response factors (RRF) ≥ 0.05?  #### Blanks  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  ##################################	Cooler temperature criteria was met.			TO STATE OF THE ST	-
Were all percent relative standard deviations (%RSD) = 30% and relative response factors (RRF) ≥ 0.05?  Were all percent relative standard deviations (%RSD) = 30% and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Was a curve fit used for evaluation?  Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  SUG 16 913  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	INSCANS herringent perceptions are a second as the second	ī			
Did the laboratory perform a 5 point calibration prior to sample analysis?  Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Was a curve fit used for evaluation?  Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  **RVBORIGINGUEDITATION**  Was a confinuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  **SURGIRS BIRS**  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?		_			
Did the laboratory perform a 5 point calibration prior to sample analysis?  Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Was a curve fit used for evaluation?  Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  ### Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  #### Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  ##################################	Were all samples analyzed within the 12 hour clock criteria?	,/	-		
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Was a curve fit used for evaluation?  Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Strong the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	manufaction and the second of				
Was a curve fit used for evaluation?  Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Surrogate spl.€  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	Did the laboratory perform a 5 point calibration prior to sample analysis?	-			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?  Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?  ***********************************	Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?				
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?    Was a continuing calibration   Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?    Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?   Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?   Was a method blank associated with every sample in this SDG?   Was a method blank analyzed at least once every 12 hours for each matrix and concentration?   Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.   Surrogate Splics   Were all surrogate %R within QC limits?   Were all surrogate %R within QC limits?   Were all surrogate %R within QC limits?	Was a curve fit used for evaluation?				
tactors (RRF) ≥ 0.05?  Was a continuing calibration  Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Surrogate spics:  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?  Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Strongte spics  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			M	-	
aach instrument?					
method criteria for all CCCs and SPCCs?  Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?  **Biants***  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  **Were all surrogate spikes**  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?					
Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?					
Was a method blank associated with every sample in this SDG?  Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Was brogate spikes  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?					
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Were all surrogate spikes  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?					Comp.
concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Wishingate spikes  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	Was a method blank associated with every sample in this SDG?				
validation completeness worksheet.  Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?					
Were all surrogate %R within QC limits?  If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?					
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	Me Surrogate spikes				
reanalysis performed to confirm samples with %R outside of criteria?	Were all surrogate %R within QC limits?	1			
MI Malinx spike/Malinx spike duplicales : 1				1	
	MII Mainxspike/Matrix spike dupicales: 1				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	matrix in this SDG? If no, indicate which matrix does not have an associated				·
Was a MS/MSD analyzed every 20 samples of each matrix?	Was a MS/MSD analyzed every 20 samples of each matrix?			1	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?				1	
VIII Laboratory control samples	All: Laboratory control samples				
Was an LCS analyzed for this SDG?		1			

.DC #:	70790	
SDG #:	LAE 10	口

### **VALIDATION FINDINGS CHECKLIST**

Page: 7 of _	2
Reviewer: /²	7
2nd Reviewer: 7	

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?			,	ger
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within				
the QC limits?				
Its required country assume energy control (control)				
Were performance evaluation (PE) samples performed?			-	
Were the performance evaluation (PE) samples within the acceptance limits?				
Were internal standard area counts within -50% or +100% of the associated calibration standard?				
Were retention times within ± 30 seconds of the associated calibration standard?	~			
describeran sulficialement allong at the service and the servi				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?		/ <del></del>		
Did compound spectra meet specified EPA "Functional Guidelines" criteria?				
Were chromatogram peaks verified and accounted for?				
XII- vernjevund sprantilaten/CROLS				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?				
KIII Nagiigipayadagtinad comodugas (IICs) pu				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?				
Were relative intensities of the major ions within $\pm$ 20% between the sample and the reference spectra?				-
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?				
SV Dystem performance, 13.			4	A Company of the Comp
System performance was found to be acceptable.	-			
everall assessment of data				
Overall assessment of data was found to be acceptable.				·
Municipal Communication (Communication Communication Commu				
Field duplicate pairs were identified in this SDG.				
Farget compounds were detected in the field duplicates.			7	
Will Field blanks	190			
Field blanks were identified in this SDG.		1		
arget compounds were detected in the field blanks.	1	-	7	

## TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	KK. Trichlorofluoromethane	17 17 17 17 17 17 17 17 17 17 17 17 17 1	
B. Bromomethane	Methylater to the state	CCC. tell-bulyiDenzene	UUU. 1,2-Dichlorotetrafluoroethane
G. Vinyl choride**		UUU. 1,2,4-1rimethy/benzene	VVV. 4-Ethyltoluene
U. 1,1,2-1 richloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW Ethanol
D. Chloroethane V. Benzene	NN. Methyl ethyl ketone	FFF 13-Dichiomhanzana	
E. Methylene chloride W. trans-1,3-Dichloropropene	OO 2 2-Dichlemannes		XXX. Ui-isopropyl ether
F. Acetone	e i si chi opi de la	GGG. p-lsopropyltoluene	YYY, tert-Butanol
	PP. Bromochloromelhane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butvl alcohol
G. Carbon disultide	QQ. 1,1-Dichloropropene	III. n-Butylbanzana	
H. 1,1-Dichloroethene**	RR. Dibromonethane		AAAA. Einyi ten-butyi ether
I. 1,1-Dichloroethane*		JJJ. 1,Z-Uichiorobenzene	BBBB. tert-Amyl methyl ether
	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
9. 1,2-Dichloroethene, total BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	Haveohlosokutano	
K. Chloroform**			UUUU. Isopropyi alcohol
1 2 Distriction	oc. 1,1,1,2-1etrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
ordernane DD. Chlorobenzene⁴	W. Isopropylbenzene	NIN. 1.2.3-Trichlombenzene	
M. 2-Butanone	WW. Bromohenzene		refr. Actolein
N. 1.1.1-Trichioroethane		OOO: 1,3,5-1 achiorobenzene	GGGG. Actylonltrile
	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dloxane
O. Carbon tetrachloride GG. Xylenes, total	YY. n-Propylbenzene	QQQ, cls-1,2-Dichlomethene	III laste de de la companya de la co
Bromodichloromethane HH. Vlnyl acetate	77 2-Chlorodolisos		IIII. ISOULIYI BICOROI
		KKK, m,p-Xylenes	JJJJ. Methacrylontirile
		SSS. o-Xylene	KKKK. Proplonitate
	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	תור.
Q. 1,2-Dichloropropane**  R. cis-1,3-Dichloropropene  JJ. Dichlorodifluoromethane	AAA. 1,3,5-Trimethylbenzene BBB. 4-Chlorotoluene	RRR. m.p-Xylenes SSS. o-Xylene TTT. 1,1,2-Trichloro-1,2,2-trifi	uoroethane

\* = System performance check compounds (SPCC) for RRF; \*\* = Calibration check compounds (CCC) for %RSD.

LDC #: 170790 SDG#:

### VALIDATION FINDINGS WORKSHEET Continuing Calibration

Page: 2nd Reviewer:\_ Reviewer:

> Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A". METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ? Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF?

N/A N/A Y N N/A

Qualifications	11WJ/A		1/42 /A																
Associated Samples	7E12009-BWI,	-#	4		1751300g-13rel	一十					>								
Finding RRF (Limit: >0.05)	240'0				O.040														
Finding %D (Limit: <25.0%)			29.0	27.6		69.7	26.6	20.6	30.8	36.4	28.7							-	
Compound	W		KK	ſμ	Ş	<b>ዋ</b> ዎ	Z	þ	7	1	711						,		
Standard ID	<i>σ</i> ω/		ced												-	,			
# Date	10/11/5		51307	-		+		+	-										

VALIDATION FINDINGS WORKSHEET

DC #: 110796/ DG #: 18 = 107

Page:

2nd Reviewer: Reviewer:

Laboratory Control Samples (LCS)

AETHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Pease see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? Was a LCS required? N N N

											<u> </u>					<u>.</u>								1
Qualifications	X1017 6	1/ part																						
Associated Samples	A11 + B1/L	1																						
RPD (Limits)	( )	.(, )		( )	( )	( )	( )	( )	( )	(	· ·	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
LCSD %R (Limits)	( )	( )		( )	( )	( )	( )	( )	( )	( )	(	( )	( )	( )	( )	( )	(	( )	( )	( )	( )	( )	( )	( )
LCS %R (Limits)	156 (65-14D)	( , )	( )	( )	( )	( )	( )	(	( )	( )	( )	(	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )	( )
Compound	g g																							
TCS/TCSD ID	7513009-108																							
Date																								
*																					-			

170790 SDG #: LDC #:

### initial Calibration Calculation Verification VALIDATION FINDINGS WORKSHEET

Page: Reviewer: 2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the

Ax = Area of compound,

 $A_{\rm h}$  = Area of associated internal standard  $G_{\rm h}$  = Concentration of internal standard

RRF =  $(A_{\nu}(C_{\nu})/(A_{\mu})(C_{\nu})$ average RRF = sum of the RRFs/number of standards %RSD = 100 \* (S/X)

C<sub>x</sub> ≈ Concentration of compound, S ≈ Standard deviation of the RRFs X ≈ Mean of the RRFs

_		•		Reported	Recalculated	Reported	L stalington G		
*	Standard ID	Calibration Date	Compound (Reference internal Standard	RRF	RRF	Average RRF	Average RBF	Reported	Recalculated
-	1 4 31	119/01	oralias oralias de la	( 1% Std)	(カメ std)	(Initial)	(initial)	%RSD	%RSD
T	<u>}</u>	2	Methylene chloride (1st Internal standard)	0.087	185.0	0.594	0.cad	900	
T			Trichlorethene (2nd internal standard)	0.357	225.0	0.327	0.27		45.5
$\parallel$			Toluede (3rd Internal standard)	1.88.	1.85	1-004	150	9.53	25.5
2			1, 2 - タc B Mathylene chloride (1st internal standard)	1 21,	- S			) 	7.94
$\neg$			Trichlorethene (2nd internal standard)	<b>&gt;</b>	2	17	114.	4.64	4.64
$-\parallel$			Toluene (3rd internal standard)	٠					
. ,									
e			Methylene chloride (1st internal standard)						
$\neg$			Trichlorethene (2nd internal standard)	-					
$\dagger$			Toluene (3rd Internal standard)						
4	-		Methylene chloride (1st internal standard)						÷
T	•		Trichlorethene (2nd internal standard)						
-			Toluene (3rd internal standard)						

Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results. Comments:

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LDC #: 17079C/ SDG #: 18E1017

# VALIDATION FINDINGS WORKSHEET Continuing Calibration Results Verification

Page: of Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 \* (ave, RRF - RRF)/ave, RRF =  $(A_{\omega})(C_{\omega})/(A_{\omega})(C_{\omega})$ 

Where: ave. RRF = initial calibration average RRF RRF = continuing calibration RRF

HRF ≈ continuing calibration RRF
A<sub>x</sub> ≈ Area of compound,
C<sub>x</sub> = Concentration of compound,

A<sub>b</sub> = Area of associated internal standard C<sub>b</sub> = Concentration of internal standard

					Reported	Recalculated	Reported	Recalculated
*	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	RRF (CC)	RRF (CC)	%۵	۵%
-	ce 1 8:03	10/21/5	Methylene ehloride (1st internal standard)	0,05	0.042	0.017	J L	
			Triehlorethene (2nd internal standard)					
			Toluene (3rd Internal standard)					
N	cev 7:40	19/21/5	Methylene chloride (1st internal standard)	0.594	0.430	0.430	27,6	24.6
			Trichlorethene (2nd internal standard)	0.327	755.0	0.35%	7.0	4
			Total State Internal standard)	١. ٢٥٠	1. 743	1.743	11.4	p-11
ო			1、2 ~DCB Methylene chloride (1st Internal standard)	1:4:1	1. 49.	164-1	0,9	0,4
			Trichlorethene (2nd internal standard)					
		-	Toluene (3rd internal standard)					
4	-		Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)				.:	
			Toluene (3rd Internal standard)					

Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10,0% of the recalculated results Comments:

LDC #: \7019C| SDG #: \85\077

### VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

Page:_	_/_of/_
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2nd reviewer:_	'V

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percer	nt recoveries	(%R)	of surrogates w	vere recalculated fo	r the compounds	identified below	using the	following c	alculation:
------------	---------------	------	-----------------	----------------------	-----------------	------------------	-----------	-------------	-------------

% Recovery: SF/SS \* 100

Where: SF = Surrogate Found

SS = Surrogate Spiked

Sample ID: (NOK)

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery · Recalculated	Percent Difference
Toluene-d8	18.0	27.62	110	110	U
Bromofiuorobenzene		25.61	102	102	
1,2-Dichloroethane-d4	•				-
Dibromofluoromethane	·	25,30	101	101	· V

Sample ID:

	Surrogate Splked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8		·			·.
Bromofiuorobenzene	·		1.		
1,2-Dichloroethane-d4				·	
Dibromofluoromethane		· · · · · · · · · · · · · · · · · · ·			-,

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8		·	·		
Bromofluorobenzene	·.				
1,2-Dichloroethane-d4				·	
Dibromofluoromethane					

Sample ID:\_

	Surrogate Splked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					·
Bromofluorobenzene			·.		
1,2-Dichloroethane-d4					
Dibromofluoromethane				·	

Sample ID:\_\_

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	·	·			
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane			·		

	<u>.</u>
5	0
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-1	
*	#
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-	$\overline{\alpha}$

### Laboratory Control Sample Results Verification VALIDATION FINDINGS WORKSHEET

2nd Reviewer: Page: Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 \* SSC/SA

SSC = Spiked sample concentration SA = Spike added Where:

RPD = i LCS - LCSD | \* 2/(LCS + LCSD)

LCS = Laboractry control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

7E 13009 - BS LCS ID:

	o o	Spike Added	Spikeds	Sample	ros	S	CCSD	jo O	rcs/rcsp	CSD
Compound	1 pn)	1	$( \langle \langle \langle \langle \rangle \rangle \rangle)$	(1)	Percent Recovery	ecovery	Percent Recovery	ecovery	RPD	Q
	rcs F	CSD	SOT	CSD	Reported	Recalc.	Reported	Receic.	Reported	Becelculated
1,1-Dichloroethene	25.0	7	0.02	۵'n	77%	3				
Trichloroethene			23.7	_	96	8				
Benzene			21.1		h %	3				
Toluene			674		26	46				
Chlorobenzene	<b>-&gt;</b>	1	6.5.5	->-	93	93	42			
			·.							,
			*.							
V.										
				-						
			·							
	·									

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LCSCLC.1SB

LDC#:_	17079C1
SDG #:	10 E 1071

### **VALIDATION FINDINGS WORKSHEET Sample Calculation Verification**

Page:_	<u>/_of/</u>
Reviewer:	FT
2nd reviewer:	<del></del>

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concer	ntratio	$n = \frac{(A_{\bullet})(I_{\bullet})(DF)}{(A_{\bullet})(RRF)(V_{\circ})(\%S)}$	Example:
Ax	· <b>=</b>	Area of the characteristic ion (EICP) for the compound to be measured	Sample I.D. # 1, 2 - PCA
A <sub>is</sub>	=	Area of the characteristic ion (EICP) for the specific internal standard	
<b>l</b> s	=	Amount of internal standard added in nanograms (ng)	$Conc. = \frac{(23032)(25)(250)}{(128825}(0.328)(0)(0)$
RRF	=	Relative response factor of the calibration standard.	1288.722 01370
V <sub>o</sub>	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).	= 340 ug/L
Df	=	Dilution factor.	01
%S	=	Percent solids, applicable to soils and solid matrices	

<b></b>	only.	T			<del></del>
			Reported Concentration	Calculated Concentration	
#	Sample iD	Compound	<u> </u>	( )	Qualification
	·		·		
	·				
<u> </u>					
<u> </u>					
	·				
			·		
				<u> </u>	

### Boeing Realty Corp. Bldg C-6 Facility Data Validation Reports LDC# 17079

Wet Chemistry

### Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** 

Boeing Realty Corp., Bldg C-6 Facility

**Collection Date:** 

May 8, 2007

LDC Report Date:

July 16, 2007

Matrix:

Water

Parameters:

Wet Chemistry

Validation Level:

Tier 1

Laboratory:

TestAmerica/CH2M Hill Applied Sciences Laboratory

Sample Delivery Group (SDG): IQE0801/G1809

Sample Identification

TMW\_07\_WG050807\_0001 TMW\_07\_WG050807\_0001DUP

### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 310.1 for Alkalinity, EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 300.0M for Metabolic Acids, EPA Method 350.3 for Ammonia as Nitrogen, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. Calibration

### a. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

### b. Calibration Verification

Calibration verification data were not reviewed for Tier 1.

### III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
МВ	Chloride Ammonia as N Butyric acid Lactic acid Propionic acid	0.164 mg/L 0.0876 mg/L 0.0190 mg/L 0.0160 mg/L 0.0250 mg/L	All samples in SDG IQE0801/G1809

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TMW_07_WG050807_0001	Ammonia as N	0.077 mg/L	0.077U mg/L

### IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

### V. Duplicates

### V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

### VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

### VII. Sample Result Verification

Raw data were not reviewed for this SDG.

### VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

### IX. Field Duplicates

No field duplicates were identified in this SDG.

### X. Field Blanks

No field blanks were identified in this SDG.

### Boeing Realty Corp., Bldg C-6 Facility Wet Chemistry - Data Qualification Summary - SDG IQE0801/G1809

### No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQE0801/G1809

SDG	Sample	Analyte	Modified Final Concentration	A or P
IQE0801/G1809	TMW_07_WG050807_0001	Ammonia as N	0.077U mg/L	Α

### 1A-WC

### GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

TMW\_07\_WG050807\_0001

...

SDG No.: G1809

Matrix: WATER

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: G180901

Date Received: 05/15/07

								Sample	Analysis	Date
CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Amount	Method	Analyzed
64-19-7	Acetic Acid	0.0238	0.100	0.100	บ	mg/L	1	25 UL	E300.0M	05/22/07
107-92-6	Butyric Acid	0.00438	0.100	0.100	บ	mg/L	1	25 UL	E300.0M	05/22/07
50-21-5	Lactic Acid	0.00890				mg/L	1	25 UL	E300.0M	05/22/07
79-09-4	Propionic Acid	0.00800	0.100	0.100	U	·mg/L	1	25 UL	E300.0M	05/22/07
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FORM I GEN CHEM

M/9/6 -6-



ANALYTICAL TESTING CORPORATION

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing 701 N. Parkcenter Drive

Project ID: Boeing C-6 Torrance

EM2727

Sampled: 05/08/07

Santa Ana, CA 92705 Attention: Clara Boeru Report Number: IQE0801

Received: 05/08/07

### **INORGANICS**

A male 4s	Madhad	Datak	MDL Limit	Reporting	Sample		Date Extracted	Date	Data Qualifiers
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IQE0801-01 (TMW_07_WG0	50807_0001 - Wa	ter)			Sample	d: 05/08/0	07		
Reporting Units: mg/f									
Alkalinity as CaCO3	EPA 310.1	7E17067	2.0	2.0	310	1	05/17/07	05/17/07	
Ammonia-N	EPA 350.3	7E16081	0.070	0.50	0.077	1	05/16/07	05/16/07	B, J
Chloride	EPA 300.0	7E08049	2.0	10	230	20	05/08/07	05/09/07	
Nitrate-NO3	EPA 30 <b>0</b> .0	7E08049	5.0	10	34	20	05/08/07	05/09/07	
Nitrite-NO2	EPA 300.0	7E08049	6.0	10	ND	20	05/08/07	05/09/07	RL1
Orthophosphate - PO4	EPA 300.0	7E08049	0.40	0.50	ND	1	05/08/07	05/09/07	
Sulfate	EPA 300.0	7E08049	3.0	10	81	20	05/08/07	05/09/07	
Total Organic Carbon	EPA 415.1	7E10131	0.50	1.0	1.5	1	05/10/07	05/10/07	
Sample ID: IQE0801-02 (WCC_6S_WG0	50807_0001 - Wat	er)	$\overline{}$		Sample	d: 05/08/0	7		
Reporting Units: mg/l	77. 010.	55150/5/	/	2.0	2.40		05/15/05	05/15/05	
Alkalinity as CaCO3	EPA 310.1	7E17067	2.0	2.0	340	1	05/17/07	05/17/07	<b>.</b> .
Ammonia-N	EPA 350.3	7E16981	0.070	0.50	0.24	1	05/16/07	05/16/07	B, J
Chloride	EPA 300.0	7E08049	2.0	10	590	20	05/08/07	05/09/07	
Nitrate-NO3	EPA 300.0	E08049	0.25	0.50	9.7	1	05/08/07	05/09/07	
Nitrite-NO2	EPA 300.0	7E08 <b>0</b> 49	6.0	10	ND	20	05/08/07	05/09/07	RL1
Orthophosphate - PO4	EPA 300.0	7E08049	0.40	0.50	ND	1	05/08/07	05/09/ <b>0</b> 7	
Sulfate	EPA 300.0	7E08049	0.15	0.50	21	1	05/08/ <b>0</b> 7	05/09/07	
Total Organic Carbon	EPA 415.1	7E10131	0.50	1.0	5.5	1	05/10/07	05/10/07	
Sample ID: IQE0801-03 (EWB001_WG05	0 <b>90</b> 7_0001 - Wate	er)			Sample	d: 05/08/0	7		
Reporting Units: mg/l	ED 4 210 1	7E170/7	2.0	2.0	210		05/17/07	05/17/07	
Alkalinity as CaCO3	EPA 310.1	7E17067	2.0	2.0	210	1		05/17/07	т.
Ammonia-N	EPA 350.3	7E16132	0.070	0.50	0.11	. 1	05/16/07	05/16/07	J
Chloride	EPA 300.0	7E08049	2.0	10	370	20	05/08/07	05/09/07	
Nitrate-NO3	EPA 300.0	7E08049	0.25	0.50	7.8	1	05/08/07	05/09/07	
Nitrite-NO2	EPA 300.0	7E08049	6.0	10	ND	20	05/08/07	05/09/07	RL1
Orthophosphate - PO4	EPA 300.0	7E08049	0.40	0.50	ND	1	05/08/07	05/09/07	
Sulfate	EPA 300.0	7E08049	0.15	0.50	21	1	05/08/07	05/09/07	
Total Organic Carbon	EPA 415.1	7E10131	0.50	1.0	1.2	1	05/10/07	05/10/ <b>07</b>	

**TestAmerica - Irvine, CA** Nicholas Marz Project Manager

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IQE0801 <Page 20 of 66>

.DC #:	17079A6	/ALI	<b>DATIO</b> I	N COMF	PLEŢE	NES	S WORK	SHEET		D	ate: <u> <b>1</b>/(3</u> ,
SDG #:	IQE0801/G1809	_		EPA18	egion 1	- Ti	ier 1			Pag	ge: <u></u> [of_
.abora	tory: Test America/CH2M	Hill A	pplied Sc	iences La	aborator	¥					ver:
										2nd Reviev	ver: <i>[</i> _
/IETH(	OD: Alkalinity (EPA Method	310.	1), Ammo	onia-N (EF	PA Metho	od 35	0.3), Chloric	de, Nitrate-	. Nitrite	- M. Orthoph	/ nosphate
Sulfate	, (EPA Method 300.0), TO	C (EF	PA Metho	d 415.1),	Metabo	lic Ac	ids (EPA M	ethod 300.	(MĆ	$\mathcal{N}$ .	' /
he sa	mples listed below were re	aview.	ed for ea	ch of the f	ollowing	valio	lation areas	Validation	finding	e are noted	in attach
	on findings worksheets.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	54 101 CU		onowing	vanc	action areas	. Validation	illiulig	3 are noted	iii attacii
					T						
	Validation Ar	ea		-				Comme	nts	<u>.</u>	4
···· 1:	Technical holding times			A.	Sampling	g date	s: 5/8/0'	7			
lla.	Initial calibration			N			' /	-1			
IIb.	Calibration verification			N				*			
111.	Blanks			5W	ME	٠.					
IVa.	Matrix Spike/(Matrix Spike) Dup	licates		SW	144	My	0/000			. Parker year or an	
IVb.	Laboratory control samples			4	Les						
V.	Sample result verification			N							
VI.	Overall assessment of data			A	ļ						• .
VII.	Field duplicates			μ				****			
VIII	Field blanks			M	, , , , , , , , , , , , , , , , , , , ,				• • • • • •		
ote: alidated	A = Acceptable N = Not provided/applicable SW = See worksheet		R = Rins	o compound sate eld blank	s detected	t	D = Duplio TB = Trip EB = Equ				
	<u> </u>	1	Г						T		
<u> </u>	MW_07_WG050807_0001	11				21			31		
	MW_07_WG050807_0001DUP	12				22			32		
	MB	13				23			33		
4		14				24			34		
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,		17				27			37		

Notes:_				

LDC #:	7079	1/46
SDG #:	Ju	<u>cour</u>

### VALIDATION FINDINGS WORKSHEET Sample Specific Analysis Reference

Page:_	of
Reviewer:_	m
2nd reviewer:	Ĺ
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All circled methods are applicable to each sample.

Sample ID	Parameter
1	PH TDS (C) F (NO) NO2 (SO) (PO) (ALB) CN: (NH) TKN (TOC CROP MUTLE DELLE)
	PH TDS CI F NO, NO, SO, PO, ALK CN' NH, TKN TOC CR8+
m2	PH TDS CIF NO, NO, SO, PO, ALK CN' NH, TKN TOC CR®+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CRO+
	ph tds ci f no, no, so, po, alk cn nh, tkn toc cr
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN NH <sub>3</sub> TKN TOC CR <sup>8+</sup>
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	pH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>8+</sup>
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	ph tds ci f No3 No2 SO4 PO4 ALK CN NH3 TKN TOC CR6+
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN NH <sub>3</sub> TKN TOC CR <sup>8+</sup>
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN NH <sub>3</sub> TKN TOC CR <sup>8+</sup>
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR6+
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS CI F NO, NO, SO, PO, ALK CN' NH, TKN TOC CRO+

Comments:	

METHODS.6

SDG #: 19079 Ab

## VALIDATION FINDINGS WORKSHEET

- o	ММ	4
rage.	Reviewer:	2nd Reviewer:

555 METHOD: Inorganics, Method Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?

Y N N/A Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

Sample Identification F Associated Samples: 0.077 Action Limit 0,438 وعرده 2900 400 から Maximum ICB/CCB Conc. units: 144/ Buture As 20190 active Alid 0.0164 4910 0.0 750 Blank 1D 96800 N N M3-N in a san といる Analyte

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the methoc blank concentration were qualified as not detected, "U".

2 17079 26 SDG #: LDC #:

### Matrix Spike/Matrix Spike Duplicates VALIDATION FINDINGS WORKSHEET

ot Page: Reviewer: 2nd Reviewer:\_\_

METHOD: Inorganics, EPA Method\_

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".  $\frac{(N-N)A}{N-N}$  Was a matrix spike analyzed for each matrix in this SDG?

Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.  $\frac{2A}{A^{1}} - \frac{1}{A^{2}}$  Were all duplicate sample relative percent differences (RPD)  $\leq$  20% for water samples and  $\leq$ 35% for soil samples? Y (N) N/A

N/A N/A

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations. LEVEL IX ONLY:  $\forall N$ 

*	OI OSW/SW	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	\$	£	809	(2)-08) 781	(41-08) stx	را	June	No gue
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3	· CHIENTING							

### Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Boeing Realty Corp., Bldg C-6 Facility

**Collection Date:** 

May 9, 2007

LDC Report Date:

July 16, 2007

Matrix:

Water

Parameters:

Wet Chemistry

Validation Level:

Tier 2

Laboratory:

TestAmerica/CH2M Hill Applied Sciences Laboratory

Sample Delivery Group (SDG): IQE0963/G1810

Sample Identification

WCC\_12\_WG050907\_0001

### Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 310.1 for Alkalinity, EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 300.0M for Metabolic Acids, EPA Method 350.3 for Ammonia as Nitrogen, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. Calibration

### a. Initial Calibration

All criteria for the initial calibration of each method were met.

### b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

### III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
МВ	Sulfate Total organic carbon Butyric acid Lactic acid Propionic acid	0.307 mg/L 0.554 mg/L 0.0190 mg/L 0.0160 mg/L 0.0250 mg/L	All samples in SDG IQE0963/G1810
ICB/CCB	Sulfate	0.351 mg/L	All samples in SDG IQE0963/G1810

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
WCC_12_WG050907_0001	Total organic carbon	2.0 mg/L	2.0U mg/L
	Propionic acid	0.0140 mg/L	0.0140U mg/L

### IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

### V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

### VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

### VII. Sample Result Verification

Raw data were not reviewed for this SDG.

### VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

### IX. Field Duplicates

No field duplicates were identified in this SDG.

### X. Field Blanks

No field blanks were identified in this SDG.

### Boeing Realty Corp., Bldg C-6 Facility Wet Chemistry - Data Qualification Summary - SDG IQE0963/G1810

### No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQE0963/G1810

SDG	Sample	Analyte	Modified Final Concentration	A or P
IQE0963/G1810	WCC_12_WG050907_0001	Total organic carbon Propionic acid	2.0U mg/L 0.0140U mg/L	А



17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax: (949) 260-3297

TAIT Environmental/Boeing

701 N. Parkcenter Drive

Santa Ana, CA 92705 Attention: Clara Boeru Project ID: Boeing C-6 Torrance

EM2727

Report Number: IQE0963

Sampled: 05/09/07

Received: 05/09/07

### **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0963-04 (WCC_12_WC	G050907_0001 - W	ater)			Sample	d: 05/09/0	<b>)7</b>		•
Reporting Units: mg/l					_				
Alkalinity as CaCO3	EPA 310.1	7E18068	2.0	2.0	180	1	05/18/07	05/18/07	
Ammonia-N	EPA 350.3	7E21103	0.070	0.50	ND	1 .	05/21/07	05/22/07	
Chloride	· EPA 300.0	7E09049	5.0	10	180	20	05/09/07	05/10/07	
Nitrate-NO3	EPA 300.0	7E09049	0.25	0.50	22	1	05/09/07	05/10/07	
Nitrite-NO2	EPA 300.0	7E09049	6.0	10	ND	20	05/09/07	05/10/07	RL1
Orthophosphate - PO4	EPA 300.0	7E09049	0.40	0.50	ND	1	05/09/07	-05/10/07	
Sulfate	EPA 300.0	7E09049	4.0	10	480	20	05/09/07	05/10/07	
Total Organic Carbon	EPA 415.1	7E14080	0.50	1.0	2.0	ì	05/14/07	05/14/07	N B
Sample 1D: 1QE0963-05 (AW0064UB_V	VG050907 <u>_0001</u> -	Water)			Sample	d: 05/09/0	7		
Reporting Units: mg/l			>		•				
Alkalinity as CaCO3	EPA 310.1	7E18068	2.0	2.0	500	1	05/18/07	05/18/07	
Ammonia-N	EPA 350.3	7E21103	0.070	0.50	0.085	1	05/21/07	05/22/07	J
Chloride	EPA 300.0	7E09049	5.0	10	480	20	05/09/07	05/10/07	
Nitrate-NO3	EPA 300.0	7E09049	0.25	0.50	ND	1	05/09/07	05/10/07	
Nitrite-NO2	EPA 300.0	7E09049	6.0	10	ND	20	05/09/07	05/10/07	RL1
Orthophosphate - PO4	EPA 300.8	7E09049	0.40	0.50	ND	1	05/09/07	05/10/07	
Sulfate	EPA 300.0	ZE09049	0.20	0.50	10	1	05/09/07	05/10/07	
Total Organic Carbon	—EPA 415.1	7E14080	0.50	1.0	.29	1	05/14/07	05/14/07	

**TestAmerica - Irvine, CA** Nicholas Marz Project Manager

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IQE0963 <Page 30 of 71>

### 1A-WC GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

WCC\_12\_WG050907\_0001

SDG No.: G1810

Lab Name: CH2M HILL/LAB/CVO

Matrix: WATER

Lab Sample ID: G181004

Date Received: 05/15/07

						,	<b>,</b>			
	•							Sample	Analysis	Date
CAS No.	Analyte	MDL	PQL	Result		Units	DF	Amount	Method	Analyzed
64-19-7	Acetic Acid	0.0238				mg/L	1	25 UL		05/23/07
107-92-6	Butyric Acid	0.00438	0.100	0.100	ט	mg/L	1	25 UL	E300.0M	05/23/07
50-21-5	Lactic Acid	0.00890	0.100	0.100		mg/L	1	25 UL	E300.0M	05/23/07
79-09-4	Propionic Acid	0.00800	0.100	0.0140	6	mg/L	1	25 UL	E300.0M	05/23/07
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LDC # SDG # Labora				EPA-R	PLETENESS W gion 1 - Tier 2 boratory	ORKSHEET	Date: 1/13/4 Page: 1 of 1 Reviewer: 1 2nd Reviewer: 1
Sulfate The sa	IOD: Alkalinity (EPA Metho e, (EPA Method 300.0), To amples listed below were r tion findings worksheets.	OC (EF	A Metho	od 415.1),	Metabolic Acids (E	EPA Method 300.ÒM)	,,
valida					T = -		
1	Validation A	rea		A	Sampling dates: 5	Comments	
lla.	Technical holding times Initial calibration			Ä	Sampling dates.	1110)	
llb.	Calibration verification			A	. ,		
- 111.	Blanks			5w			and the second s
IVa.	Matrix Spike/(Matrix Spike) Du	ınlicates		5W	my pro/m	<del></del>	
IVb.	Laboratory control samples	рповиоз	<u> </u>	A	100		
V.	Sample result verification			N			
VI.	Overall assessment of data	-		A			
VII.	Field duplicates			N			and the second s
VIII	Field blanks			N			
Note:	A = Acceptable N = Not provided/applicable SW = See worksheet		R = Rin	o compound sate eld blank	TE	= Duplicate 3 = Trip blank 3 = Equipment blank	
validate	ed Samples:						
1	WCC_12_WG050907_0001	11			21	31	
2	MP	12			22	32	
3		13			23	33	
4		14			24	34	
5		15			25	35	
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LDC #:	7079 Bb
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### VALIDATION FINDINGS WORKSHEET Sample Specific Analysis Reference

Page:	_of_	
Reviewer:	m	<b></b>
2nd reviewer:		1
	7	

All circled methods are applicable to each sample.

Sample ID	Parameter
	pH TDS (C) F (NO) (NO) (SO) (PO) (ALB) CN (NH) TKN (TOC CRO! Mitabilia)
,	pH TDS CI F NO, NO, SO, PO, ALK CN' NH, TKN TOC CRO+
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR6+
	pH TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR°+
	ph TDS CI F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR6+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR®+
	PH TDS CLF NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR®+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR®+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR®+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+
	ph tds ci f no3 no2 so4 po4 alk cn. nh3 tkn toc cr8+
	ph tds cif no3 no2 so4 po4 alk cn nh3 tkn toc cr6+
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR®+
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR8+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR8+
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR8+
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CRO+
	ph tds ci f no3 no2 so4 po4 alk cn. nh3 tkn toc cr
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR8+
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR8+
	ph TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR8+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CNT NH3 TKN TOC CR8+
	ph tds ci f no, no, so, po, alk cn nh, tkn toc cr
	pH TDS CI F NO, NO, SO, PO, ALK CN' NH, TKN TOC CR"+

Comments:	3 <del>1</del>

LDC #: 1999Bb SDG #: 5.28 cover METHOD: Inorganics, Method \_\_\_\_

## VALIDATION FINDINGS WORKSHEET

Blanks

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Page:	Reviewer:	Reviewer:
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Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(N N/A Were all samples associated with a given method blank?

(Y) N N/A Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

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1,715
2,77 2.0
750.0
0,090
0, hrs 0,0/40

ORCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the methoc blank concentration were qualified as not detected, "U".

DC #: 19099 1836

## VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates

Page: of Reviewer: Lot 2nd Reviewer:

METHOD: Inorganics, EPA Method See

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A". (V) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Were matrix spike percent recoveries (%R) within the control limits of 75-1259 If the sample concentration exceeded the spike concentration by a factor Y (A) N/A

of 4 or more, no action was taken. Were all duplicate samples and  $\leq$ 35% for soil samples? Were all duplicate sample relative percent differences (RPD)  $\leq$  20% for water samples and  $\leq$ 35% for soil samples? MN N/A

LEVEL IX ONLY:
Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

85 25 201 85 25 701 864 173	*	DI DSW/WW	Matrix	Analyte	MS %Recovery	MSD *Recovery	RPD (Limits)	Associated Samples	Qualifications	
		TD E-386 2	4	207	<i>h</i> 81	173		MA	No great	
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### Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** 

Boeing Realty Corp., Bldg C-6 Facility

**Collection Date:** 

May 10, 2007

LDC Report Date:

July 16, 2007

Matrix:

Water

Parameters:

Wet Chemistry

Validation Level:

Tier 3

Laboratory:

TestAmerica/CH2M Hill Applied Sciences Laboratory

Sample Delivery Group (SDG): IQE1077/G1808

Sample Identification

AW0066UB\_WG051007\_0001

### Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 310.1 for Alkalinity, EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 300.0M for Metabolic Acids, EPA Method 350.3 for Ammonia as Nitrogen, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. Calibration

### a. Initial Calibration

All criteria for the initial calibration of each method were met.

### b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

### III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
МВ	Sulfate Butyric acid Lactic acid Propionic acid	0.454 mg/L 0.0190 mg/L 0.0160 mg/L 0.0250 mg/L	All samples in SDG IQE1077/G1808

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

### IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

### V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

### VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

### VII. Sample Result Verification

All sample result verifications were acceptable.

### VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

### IX. Field Duplicates

No field duplicates were identified in this SDG.

### X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility Wet Chemistry - Data Qualification Summary - SDG IQE1077/G1808

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQE1077/G1808

No Sample Data Qualified in this SDG

### Testamerica ANALYTICAL TESTING CORPORATION

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax: (949) 260-3297

TAIT Environmental/Boeing

701 N. Parkcenter Drive

Santa Ana, CA 92705 Attention: Clara Boeru Project ID: Boeing C-6 Torrance

EM2727

Report Number: IQE1077

Sampled: 05/10/07

Received: 05/10/07

### **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: 1QE1077-01 (AW0066U	B WG051007 0001 - V	Water)						-	
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E20030	2.0	2.0	500	1	05/20/07	05/20/07	
Ammonia-N	EPA 350.3	7E21103	0.070	0.50	ND	1	05/21/07	05/22/07	
Chloride	EPA 300.0	7E14053	12	25	820	50	05/14/07	05/14/07	
Nitrate-NO3	EPA 300.0	7E10046	0.25	0.50	ND	1	05/10/07	05/11/07	
Nitrite-NO2	EPA.300.0	7E10046	6.0	10	ND	20	05/10/07	05/11/07	RLI
Orthophosphate - PO4	EPA 300.0	7E10046	0.40	0.50	ND	1	05/10/07	05/11/07	
Sulfate	EPA 300.0	7E10046	0.20	0.50	ND	1	05/10/07	05/11/07	
Total Organic Carbon	EPA 415.1	7E14122	50	100	530	100	05/14/07	05/14/07	
Sample ID: IQE1077-02 (AW0067U	<del>B_WG051007_9</del> 001 - V	Vater)							
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E20030	2.0	2.0	270	1	05/20/07	05/20/07	
Ammonia-N	ÆPA 350.3	7E21103	0.070	0.50	ND	1	05/21/07	05/22/07	
Chloride	EPA 300.0	7E10046	5.0	10	290	20	05/10/07	05/11/07	
Nitrate-NO3	EPA 300.0	7E10046	0.25	0.50	4.4	1	05/10/07	05/11/07	
Nitrite-NO2	EPA 300.0	7E10046	6.0	. 10	ND	20	05/10/07	05/11/07	RL1
Orthophosphate - PO4	EPA 300.0	7E10046	0.40	0.50	ND	1	05/10/07	05/11/07	
Sulfate	EPA 300.0	7E10046	0.20	0:50	.28	1	05/10/07	05/11/07	
Total Organic Carbon	EPA 415.1	7E14122	0.50	1.0	11	1	05/14/07	05/14/07	
Sample ID: IQE1077-03 (AW0077U)	B_WG051007_0001 - V	Vater)							
Reporting Units: mg/l				-					
Alkalinity as CaCO3	EPA 310.1	7E20030	2.0	2.0	650	1	05/20/07	05/20/07	
Ammonia-N	EPA 350.3	7E21103	0.14	1.0	4.4	2	05/21/07	05/22/07	
Chloride /	EPA 300.0	7E11128	12	25	640	50	05/11/07	05/12/07	
Nitrate-NO3	EPA 300.0	7E11128	1.2	2.5	ND	.5	05/11/07	05/11/07	RL1
Nitrite-NØ2	EPA 300.0	7E11128	1.5	2.5	ND	5	05/11/07	05/11/07	RLI
Orthophosphate - PO4	EPA 300.0	7E11128	2.0	2.5	6.4	-5	05/11/07	05/11/07	
Sulfate	EPA 300.0	7E11128	1.0	2.5	2.7	5	05/11/07	05/11/07	
Total Organic Carbon	EPA 415.1	7E14P22	50	100	660	100	05/14/07	05/14/07	

TestAmerica - Irvine, CA Nicholas Marz Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQE1077 <Page 28 of 79>

### 1A-WC GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

AW0066UB\_WG051007\_0001

SDG No.: G1808

Lab Name: CH2M HILL/LAB/CVO

Matrix: WATER

Lab Sample ID: G180801

Date Received: 05/15/07

					1	Τ		Sample	Analysis	Date
CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Amount	Method	Analyzed
64-19-7	Acetic Acid	1.19	5.00	483		mg/L	50	25 UL	E300.0M	05/26/07
107-92-6	Butyric Acid	0.0438	1.00	13.6		mg/L	10	25 UL	E300.0M	05/23/07
50-21-5	Lactic Acid	0.0890	1.00	1.00	U	mg/L	10	25 UL	E300.0M	05/23/07
79-09-4	Propionic Acid	0.0800	1.00	72.9		mg/L	10	25 UL	E300.0M	05/23/07
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LDC#	: <u>17079C6</u>	/ALII	OITAC		LETENESS		SHEET	Date: <u>1/13/</u> -
SDG #					egion 1 - Tie	r 3		Page: of
_abora	atory: Test America/CH2M	Hill Ap	oplied So	<u>ciences La</u>	<u>boratory</u>			Reviewer: <u>\u00e44</u> 2nd Reviewer: \u00e4
								7
METH	OD: Alkalinity (EPA Method	310.1	), Amm	onia-N (EP	A Method 350	.3), Chloride	e, Nitrate-M, Nitrite	-M, Orthophosphate
Sullate	e, (EPA Method 300.0), TO	IC (EP	A Metho	00 415.1),	Metabolic Acid	IS (EPA IVIE	thod 300.0ivi)	
	amples listed below were re	eviewe	d for ea	ich of the fo	ollowing valida	tion areas.	Validation findings	s are noted in attache
/alloat	ion findings worksheets.							
	Validation Ar	ea					Comments	
[, -	Technical holding times			A A	Sampling dates:	5/10/0	1	
· Ila.	Initial calibration			<b>A</b>		* 1	Total Control of the	
IIb.	Calibration verification			<u>*************************************</u>	the state of the same		en servicio de la servicio de la compansión de la compans	and the second s
III.	Blanks			5W		No trape of the second	annum organization in the contract of the cont	The second secon
IVa.	Matrix Spike/(Matrix Spike) Dup	olicates		SW X	us puro	19mp		
IVb.	Laboratory control samples			4	ies			
V.	Sample result verification			L A				
VI.	Overall assessment of data			A			and the second of the second o	
VII.	Field duplicates			N				
VIII	Field blanks			I N			*** ***********************************	
Note:	A = Acceptable N = Not provided/applicable SW = See worksheet		R = Rin	lo compounds isate ield blank	s detected	D = Duplica TB = Trip b EB = Equip		
/alidate	d Samples:							
1	AW0066UB_WG051007_0001	11			21		31	
2	MB	12		-	22		32	
3		13			23		33	
4		14			24		34	
5		15			25	1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	35	
6		16			26		36	
7		17			27		37	
8		18			28		38	
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		20			30		40	

LDC #:	17:79	c6
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### **VALIDATION FINDINGS CHECKLIST**

Page: 1 of 1
Reviewer: 1
2nd Reviewer: 1

Method:Inorganics (EPA Method Validation Area Findings/Comments Create chieniani esecetives All technical holding times were met. Cooler temperature criteria was met. Were all instruments calibrated daily, each set-up time? Were the proper number of standards used? Were all initial calibration correlation coefficients > 0.995? Were all initial and continuing calibration verification %Rs within the 90-110% QC nutabelie hill limits? Were titrant checks performed as required? (Level IV only) Were balance checks performed as required? (Level IV only) Was a method blank associated with every sample in this SDG? Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. vidajus pikėntai pikė tipličitė saidetipliči Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water. Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike Ж concentration by a factor of 4 or more, no action was taken. Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL (v) aboratory control samples (c Was an LCS anaylzed for this SDG? Was an LCS analyzed per extraction batch? Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits? VI. Regional Quality Assurance and Quality Control Were performance evaluation (PE) samples performed?

Were the performance evaluation (PF) samples within the acceptance limits?

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### **VALIDATION FINDINGS CHECKLIST**

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Validation Area	Yes	No	NA	Findings/Comments
in sampe nechi well client.				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	V			
Were detection limits < RL?	/			
Many long as you mad to have been a way to be seen to be seen as				
Overall assessment of data was found to be acceptable.				
Field duplicate pairs were identified in this SDG.		V		
Target analytes were detected in the field duplicates.			/	
Field blanks were identified in this SDG.			-	
Target analytes were detected in the field blanks.				

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### VALIDATION FINDINGS WORKSHEET Sample Specific Analysis Reference

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All circled methods are applicable to each sample.

Sample ID	Parameter
	PH TDS (CI) F (NO) (NO) SO) (PO) ALLY CN (NH.) TKN TOC) CR" (MILLY)
	PH TDS CI F NO, NO, SO, PO, ALK CN NH, TKN TOC CR.
	PH TDS CI F NO, NO, SO, PO, ALK CN NH, TKN TOC CR"
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CROT
	PH TDS CI F NO, NO, SO, PO, ALK CN NH, TKN TOC CR°+
	PH TDS CI F NO, NO, SO, PO, ALK CN NH, TKN TOC CR"
	PH TDS CI F NO, NO, SO, PO, ALK CN' NH, TKN TOC CR" -
	PH TDS CI F NO, NO, SO, PO, ALK CN NH, TKN TOC CR TH
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CRS+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN' NH3 TKN TOC CR8+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CRO+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CRO+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	PH TDS CLF NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	PH TDS CLF NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	PH TDS CI F NO, NO, SO, PO, ALK CN' NH, TKN TOC CRS+
	PH TDS CLF NO3 NO2 SO4 PO4 ALK CNT NH3 TKN TOC CR8+
	PH TDS CI F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR8+
	PH TDS CI F NO, NO, SO, PO, ALK CN NH, TKN TOC CR®+
	PH TDS CLF NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR®+
	PH TDS CLF NO, NO, SO, PO, ALK CN' NH, TKN TOC CRe+

Comments:			·	
	·			

19079C6

METHOD: Inorganics, Method \_\_

## VALIDATION FINDINGS WORKSHEET

Jan Jan

<b>↓</b>	МИ	8
Page:	Reviewer:	2nd Reviewer:

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

| N N/A | Were all samples associated with a given method blank?
| N N/A | Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

	uo													
A11 (252)	Sample Identification													
An	San													
iples:														
Associated Samples:														
Ass														
	Blank	Action Limit	2,27	0,095	0800	2115								
\	Maximum				٥	•								
Conc. units: Iwy	Blank ID	MB	4440		Letic Adis 20160	0,000								
Conc. unit	Analyte		FOS	Butyain	Lectic A	mopionis	A							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT: All contaminants within five times the methoc blank concentration were qualified as not detected, "U".

(70)9ch LDC #:

# VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates

ō Page: Reviewer:\_ 2nd Reviewer:

> coul METHOD: Inorganics, EPA Method\_

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A". Was a matrix spike analyzed for each matrix in this SDG?

Y N/A

Were matrix spike percent recoveries (%R) within the control limits of  $\frac{75-1257}{5}$  If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. Were all duplicate sample relative percent differences (RPD)  $\leq$  20% for water samples and  $\leq$ 35% for soil samples?

Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations. N N/A Wer LEVEL IV ONLY: N N/A Wer

Ms/M	OI OS	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
74 E-589-01	9	NA	ح٥٨	206	γo		hone	M. free
								, A
Commonte								
								to design the second

757966 LDC#:

### Initial and Continuing Calibration Calculation Verification Validatin Findings Worksheet

2nd Reviewer:\_\_ Reviewer: Page:

Method: Inorganics, Method

The correlation coefficient (r) for the calibration of  $-\epsilon$  was recalculated.Calibration date:  $-\epsilon/u/\epsilon$ 

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100

Where,

Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

					Recalculated	Reported	Acceptable
Type of analysis	Analyte	Standard	conc. mg/L	Area	r or r²	r orr²	(N/X)
Initial calibration		s1	0	22637.8			
Calibration verification	ច	s2	0.2	40439.52	0.999985	0.999985	
		s3	0.5	104109.07			
		s4	2	978293.29			<b>&gt;</b>
		s5	10	2034837.4			_
		se	20	4407366.6			
		s7	30	7046341.55			
$\mathcal{C}_{ed}$ Calibration verification	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0)	10,47		اند) ا	NR	7
$\mathcal{C}\mathcal{U}$ Calibration verification	pr Ewy	4	5,843		9,5	W	
$\mathcal{C}_{\mathcal{N}}$ Calibration verification	Prop som	29.6	4,7		6~L1 ad	7.9	7

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.\_

170796 LDC #:

### VALIDATION FINDINGS WORKSHEET Level IV Recalculation Worksheet

Page: 2nd Reviewer:

METHOD: Inorganics, Method \_\_

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

%R = Found × 100 Where

Found =

True ≡

concentration of each analyte <u>measured</u> in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result). concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

RPD =  $\frac{1.5 - D_1}{(S + D)/2} \times 100$  Where,

။ ။ တ Ω

Original sample concentration Duplicate sample concentration

					Recalculated	Reported	
Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	%R/RPD	%R/RPD	Acceptable (Y/N)
	Laboratory control sample						•
Z		tas	18,9	9	86	86	}
411747	Matrix spike sample		(SSR-SR)			(	
- 0		<u>ب</u>	127	20	96	9)	
70 Ev 113	Duplicate sample			r			8
5		AK	20	20	0	0	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTOLC.6

	17079CG : Lee cour			Page Reviewer 2nd reviewer	:(of ::
Please N N N N N N Compo	see qualifications below N/A Have results to N/A Are results with N/A Are all detection and (analyte) results for the new field and verified using the new field and	g the following equation:  Recalculation:	ts?	ted with a positiv	e detect were
AIK	= Nfishet XV Semple volu	AME	75~	Calculated	
#	Sample ID	Analyte	Concentration	Concentration ( Mg)	Acceptable (Y/N)
	1	Alk	500	900	У
		, , , , , , , , , , , , , , , , , , ,	Pro	820	<b>'</b>
		Toc.	430	430	$\cup$
		Autic full	483	482	
		Butyni Any	مكا	13-6	
		ho pomi Aris	72.9	72-9	X
t					

### Boeing Realty Corp. Bldg C-6 Facility Data Validation Reports LDC# 17079

**Dissolved Gases** 

### Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Boeing Realty Corp., Bldg C-6 Facility

**Collection Date:** 

May 8, 2007

**LDC Report Date:** 

July 17, 2007

Matrix:

Water

Parameters:

Dissolved Gases

Validation Level:

Tier 1

Laboratory:

Del Mar Analytical/Air Technology Laboratory, Inc.

Sample Delivery Group (SDG): IQE0801/A7050904

Sample Identification

TMW\_07\_WG050807\_0001

### Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. Calibration

### a. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

### b. Calibration Verification

Calibration verification data were not reviewed for Tier 1.

### III. Blanks

Method blanks were performed at the required frequency. No dissolved gas contaminants were found in the method blanks.

### IV. Accuracy and Precision Data

### a. Surrogate Recovery

Not required by the method.

### b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

### c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

### V. Target Compound Identification

Raw data were not reviewed for this SDG.

### VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

### VII. System Performance

Raw data were not reviewed for this SDG.

### VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

### IX. Field Duplicates

No field duplicates were identified in this SDG.

### X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility Dissolved Gases - Data Qualification Summary - SDG IQE0801/A7050904

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IQE0801/A7050904

No Sample Data Qualified in this SDG

Page 2 of 3 A7050904

Client: Attn:

Units:

**TestAmerica** Nicholas Marz

Client's Project:

IQE0801 5/9/2007

Date Received:

Matrix: Water ug/L

Dissolved Gases by EPA Procedure RSKSOP-175

I	ab No.:	A705	0904-01	A705	0904-02	A705	0904-03		
Client Sam	ple I.D.:	IQE	0801-01	IQE	0801-02	IQE	0891-03		
Date Sa	mpled:	5/8	3/2007	5/8	3/2007	5/8	/2007		
Date An	alyzed:	5/1	4/2007	5/1	4/2007	5/1	4/2007		
Analyst	Initials:		DT		DT	/	DT		
Da	ta File:	14:	nay010	141	may011	14r	пау012		
· QC	Batch:	0705	I4GC8A1	0705	I4GC8A1	07051	4GC8A1		
Dilution	Factor:		1.0		1.0		1.0	,	
ANALYTE	PQL	RL	Results	RL	Resylts	RL	Results		
Methane	1.0	1.0	ND	1.0	<b>7</b> .7	1.0	12		
Ethane	2.0	2.0	ND	2.0	/ND	2.0	ND		
Ethylene	3.0	3.0	ND	3.0	/ ND	3.0	ND		
Carbon Dioxide	200	200	31,000	200/	93,000	200	21,000		
Nitrogen	1,500	1,500	96,000	1,800	96,000	1,500	97,000		

PQL = Practical Quantitation Limit

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Operations Manager

The cover letter is an integral part of this analytical report.

AirTECHNOLOGY Laboratories, Inc. =

SDG #	#: <u>17079A51</u> #:_ <u>IQE0801/A7050904</u> atory: <u>Del Mar Analytical/A</u>				Tier 1		SS WO	ORKSHEET		Date: 7//C Page: /of / Reviewer: // 2nd Reviewer: //
WETH	HOD: GC Dissolved Gases	s (Me	thod RSK-	175)						
	amples listed below were i	revie	wed for ear	ch of the fe	ollowing	g val	idation a	areas. Validatio	on find	lings are noted in attache
/alidat	tion findings worksheets.									
	Validation A	Area_						Comm	ents	
I.	Technical holding times			Δ	Samplin	ng da	tes:	5/8/0-		
lla.	Initial calibration			N						
llb.	Calibration verification			N						
111.	Blanks			Δ						
IVa.	Surrogate recovery			N	no-	+	(29.	rived		
IVb.	Matrix spike/Matrix spike dupl	licates		N	ا ما	lier	보 ()	cireal specialisal		
IVc.	Laboratory control samples			A	l v	حد	lp	, N		
V.	Target compound identification	<u>on</u>		N						
VI.	Compound Quantitation and (	CRQL	s	N						
VII.	System Performance			N						
VIII.	Overall assessment of data			A			····			
IX.	Field duplicates			N	<u> </u>					
X.	Field blanks			N						
Note:	A = Acceptable N = Not provided/applicable SW = See worksheet	_	R = Rins	o compounds sate eld blank	s detecte	∌d	TB	= Duplicate = Trip blank = Equipment blan	nk	
	ed Samples:						<u>i.</u>			
	TMW_07_WG050807_0001	11	MB-	5 15 07	1 :	21			31	
2		12			:	22			32	
3		13	<u> </u>		;	23			33	
4		14	<u> </u>		;	24			34	
5		15			<u></u> ;	25			35	
6		16	<u> </u>		<i>;</i>	26			36	
7		17			<u></u> ;	27			37	
8		18			<u></u> ;	28			38	
9	1	19	1			29	ı		39	

30

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Notes:\_

### Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Boeing Realty Corp., Bldg C-6 Facility

**Collection Date:** 

May 9, 2007

LDC Report Date:

July 17, 2007

Matrix:

Water

Parameters:

Dissolved Gases

Validation Level:

Tier 2

Laboratory:

Del Mar Analytical/Air Technology Laboratory, Inc.

Sample Delivery Group (SDG): IQE0963

Sample Identification

WCC\_12\_WG050907\_0001

### Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. Calibration

### a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination ( $r^2$ ) was greater than or equal to 0.990.

### b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

### III. Blanks

Method blanks were performed at the required frequency. No dissolved gas contaminants were found in the method blanks.

### IV. Accuracy and Precision Data

### a. Surrogate Recovery

Not required by the method.

### b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

### c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

### V. Target Compound Identification

Raw data were not reviewed for this SDG.

### VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

### VII. System Performance

Raw data were not reviewed for this SDG.

### VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

### IX. Field Duplicates

No field duplicates were identified in this SDG.

### X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility Dissolved Gases - Data Qualification Summary - SDG IQE0963

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IQE0963

No Sample Data Qualified in this SDG

Client:

TestAmerica

Attn:

Nicholas Marz

Client's Project:

IQE0963 5/10/2007

Date Received: Matrix: Water

Units: ug/L

Dissolved Gases by EPA Procedure RSKSOP-175

		<del></del>			***************************************				<del> </del>	,	
I	ab No.:	_A703	1006-01	A705	1006-02	A705	1006-03	A705	1006-04	A-705	1006-93
Client Sam	ple I.D.:	IQE	0963-01	IQE	0963-02	IQE	0963-03	IQE	0963-04	/QE	0963-05
Date S	ampled:	579	V2007	5/9	9/2007	5/9	/2007	5/9	/2007	5/9	/2007
Date Ar	alyzed:	5/1:	5/2007	5/1	5/2007	5/1:	5/2007	5/1:	5/2007	5\(\)1	5/2/007
Analyst	Initials:		DT		DT /		DT		DT		D <b>/</b>
Da	ta File:	14:	nay013	14	may014	14:	nay015	14:	nay016	141	y017
QC	Batch:	0705	I5GC8A1	0785	15GC8A1	07051	15GC8A1	0705	I5GC8A1	0705	CSA1
Dilution	Factor:		1.0		1.8		1.0		1.0		1.0\
ANALYTE	PQL	RL	Results	RL	Results	RL	Results	RL	Results	RL /	Results
Methane	1.0	1.0	1.2	1.0	1.1	10	1.4	1.0	1.4	1.0	1.3
Ethane	2.0	2.0	ND /	2.0	ND	2.0	ND	2.0	ND	2.0/	ND
Ethylene	3.0	3.0	ND	3.0	ND	3.0	ND	3.0	ND	3.4	ND\
Carbon Dioxide	200	200	54,000	200	150,000	200	220,000	200	17,000	2 <b>9</b> 0	130,000
Nitrogen	1,500	1,500	96,000	1,500	92,000	1,500	90,000	1,500	98,000	1,500	94,000

PQL = Practical Quantitation Limit

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Mark J. Johnson Operations Manager Date:

5/15/07

Page 2 of 3

A7051006

The cover letter is an integral part of this analytical report.

AITTECHNOLOGY Laboratories, Inc. -

Alaks

SDG #	:17079B51 #:IQE0963 atory:_Del Mar Analytical/				Tier 2	ESS WORKS	HEET	Date:	7/16 of_ 5_
METH	IOD: GC Dissolved Gase	es (M	ethod RSK-	175)				2nd Reviewer:	#
	amples listed below were tion findings worksheets.		ewed for ead	ch of the fo	ollowing va	alidation areas. \	/alidation findir	ngs are noted in atta	, ached
	Validation	Area					Comments		
I.	Technical holding times			Δ	Sampling d	ates: 5	107		
lla.	Initial calibration			Δ	√ <sup>2</sup>	20.990	1		
llb.	Calibration verification			Δ	%00	525			
111.	Blanks			Δ			/		
lVa.	Surrogate recovery			7	not	Requir	<u>_</u> 0		
IVb.	Matrix spike/Matrix spike du	plicate	S	17	clica	nt > pe in	<i>کن</i>		
IVc.	Laboratory control samples			A	LCS	10 1			
V.	Target compound identificat	ion		N					
VI.	Compound Quantitation and	CRQ	_S	N					
VII.	System Performance			N					
VIII.	Overall assessment of data			Δ					
IX.	Field duplicates			N					
X.	Field blanks			N					
Note: /alidate	A = Acceptable N = Not provided/applicable SW = See worksheet ed Samples:	i	R = Rin:	o compound: sate eld blank	s detected	D = Duplicat TB = Trip bl EB = Equipr	ank		
1	WCC_12_WG050907_0001	11	MB - 5	15/07	21		31		
2		12			22		32		
3		13			23		33		
4		14			24		34		
5		15			25		35		
6		16			26		36		
7		17			27		37		
8		18			28		38		
9		19			29		39		
10		20			30		40		
Votes							***************************************		

### Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Boeing Realty Corp., Bldg C-6 Facility

**Collection Date:** 

May 10, 2007

LDC Report Date:

July 17, 2007

Matrix:

Water

Parameters:

Dissolved Gases

Validation Level:

Tier 3

Laboratory:

Del Mar Analytical/Air Technology Laboratory, Inc.

Sample Delivery Group (SDG): IEQ1077/A7051102

Sample Identification

AW0066UB\_WG051007\_0001

### Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. Calibration

### a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination  $(r^2)$  was greater than or equal to 0.990.

### b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

### III. Blanks

Method blanks were reviewed for each matrix as applicable. No dissolved gas contaminants were found in the method blanks.

### IV. Accuracy and Precision Data

### a. Surrogate Recovery

Surrogates were not required by the method.

### b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

### c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

### V. Target Compound Identification

All target compound identifications were within validation criteria.

### VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

### VII. System Performance

The system performance was acceptable.

### VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

### IX. Field Duplicates

No field duplicates were identified in this SDG.

### X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Data Qualification Summary - SDG IEQ1077/A7051102

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IEQ1077/A7051102

No Sample Data Qualified in this SDG

Client:

TestAmerica

Attn:

Nicholas Marz

Page 2 of 4 A7051102

Client's Project:

IQE1077 5/11/2007

Date Received: Matrix: Water

Units: ug/L

		Di	ssolved Ga	ises by I	EPA Proce	dure R	SKSOP-17	75			
L	ab No.:	A705	1102-01	A795	1102-02	A705	1102-03	A705	1102-04	A705	1102-05
Client Samp	ole 1.D.:	IQE	1077-01	IQE	1077-02	IQE	1077-03	IQE	1077-04	IQE	1077-05
Date Sa	mpled:	5/10	0/2007	5/1	0/2007	5/1	0/2007	5/1	0/2007	5/1	0/2007
Date An	alyzed:	5/1:	5/2007	5/1:	5/2007	5/1:	5/2007	5/1:	5/2007	5/I	5/2007
Analyst l	lnitials:		DT		DT		DT		D7		DT
Da	ta File:	14r	nay018	141	nay019	M	nay020	14r	nay021	141	nay022
QC Batch:		07051	5GC8A1	0705	I5GC8A1	0705	ISCORA1	07051	ISGC8A1	0705	5GC8A1
Dilution Factor			1.0		1.0		1.0		1.0		1.0
ANALYTE	PQL	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results
Methane	1.0	1.0	3.3	1.0	1.2	1.0	850	1.0	1.4	1.0	1.3
Ethane	2.0	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND
Ethylene	3.0	3.0	ND	3.0	ND	3.0	ND	3.0	ND	3.0	ND
Carbon Dioxide	200	200	180,000	200	36,000	200	270,000	200	180,000	200	180,000
Nitrogen	1,500	1,500	94,000	1,500	98,000	1,500	86,000	1,500	93,000	1,500	90,000

PQL = Practical Quantitation Limit

ND = Not Detected (Below RL)

RL = PQL X Dilution Factor

Reviewed/Approved By:

Mark J. Johnson

Operations Manager

Date: 5/15/07

The cover letter is an integral part of this analytical report

AirTECHNOLOGY Laboratories, Inc. -

1/1910

ples listed below were refindings worksheets.  Validation A  Technical holding times Initial calibration Calibration verification Blanks Surrogate recovery		wed for ead	<u> </u>	ollowing val		Comments	gs are noted in attache
Technical holding times  Initial calibration  Calibration verification  Blanks  Surrogate recovery	rea		<u> </u>	Sampling dat	_ 1 \		
nitial calibration Calibration verification Blanks Surrogate recovery				Sampling dat	امراء ما	n 1	
Calibration verification  Blanks  Surrogate recovery			<i>A</i>		ies.	07	
Blanks Surrogate recovery			Δ	(2 =	20.990		
Surrogate recovery			۵	% D	525		
			Δ				
			2	rot	requi	red	•
Matrix spike/Matrix spike dupli	icates		N		HP cliebe	Strint	w
aboratory control samples			A	L cs	P	. }	
Farget compound identification	n		Δ				
Compound Quantitation and C	CRQL	3	Δ.				
System Performance			Δ				
Overall assessment of data			Δ				
Field duplicates			N				
ield blanks			$\bigvee$				
A = Acceptable N = Not provided/applicable SW = See worksheet Samples:		R = Rins	sate	s detected	TB = Trip bla	ınk	
	11	MB-5	15/07	21		31	
	12		,	22		32	
	13			23		33	
	14			24		34	
	15			25		35	
	16			26		36	
	17			27		37	
	18			28		38	
	19			29		39	
	20			30		40	
	Alatrix spike/Matrix spike duplicaboratory control samples  Farget compound identification  Compound Quantitation and Comp	Alatrix spike/Matrix spike duplicates Aboratory control samples Farget compound identification Compound Quantitation and CRQLs System Performance Overall assessment of data Field duplicates Field blanks  A = Acceptable N = Not provided/applicable SW = See worksheet  Samples  V0066UB_WG051007_0001 11  12  13  14  15  16  17  18  19	Alatrix spike/Matrix spike duplicates  Aboratory control samples  Farget compound identification  Compound Quantitation and CRQLs  System Performance  Overall assessment of data  Field duplicates  Field blanks  A = Acceptable N = Not provided/applicable SW = See worksheet  FB = Field  Alatrix spike/Matrix spike duplication  Compound Quantitation and CRQLs  System Performance  Overall assessment of data  Field duplicates  Field blanks  A = Acceptable N = Not provided/applicable FB = Field  FB =	Altrix spike/Matrix spike duplicates Alaboratory control samples Alaboratory control samples Alarget compound identification Compound Quantitation and CRQLs Experiment Performance Overall assessment of data  Ale Acceptable Ale Acceptable Ale Not provided/applicable Bloom Samples:  Ale Acceptable Ale Accep	Altrix spike/Matrix spike duplicates  aboratory control samples  Farget compound identification  Compound Quantitation and CRQLs  System Performance  Overall assessment of data  Field duplicates  Field blanks  A = Acceptable N = Not provided/applicable Samples:  Overall assessment of data  Field blanks  A = Acceptable N = Not provided/applicable Samples:  Overall assessment of data  Field blanks  A = Acceptable N = No compounds detected R = Rinsate FB = Field blank  FB = Field blank  Compound Quantitation and CRQLs  ND = No compounds detected R = Rinsate FB = Field blank  FB = Field blank	Matrix spike/Matrix spike duplicates  aboratory control samples  agreet compound identification  Compound Quantitation and CRQLs  System Performance  Overall assessment of data  field duplicates  N  A = Acceptable N = Not provided/applicable SW = See worksheet  FB = Field blank  D = Duplicate TB = Trip bla EB = Equipn  Samples  W  MB - S   S   D 7   21    12   22    13   23    14   24    15   25    16   26    17   27    18   28    19   29	Adatrix spike/Matrix spike duplicates  aboratory control samples  A Les IP  Target compound identification  Compound Quantitation and CRQLs  System Performance  Overall assessment of data  Tield duplicates  N I I I I I I I I I I I I I I I I I I

LDC#: 107079CT | SDG#: fu coner

### VALIDATION FINDINGS CHECKLIST

Method: \_\_\_\_ GC \_\_\_ HPLC

Validation Area  Ves No NA Findings/Comments  E Technical holding times  All technical holding times were met.  Coder temperature criteria was met.  I) indist calibration  Did the laboratory perform a 5 point calibration prior to sample analysis?  Was a linear fit used for evaluation? If yes, were all percent relative standard deviators (%RSD) ≤ 20%?  Was a curve fit used for evaluation? If yes, what was the acceptance criteria?  Did the initial calibration meet the curve fit acceptance criteria?  Where the RT windows properly established?  Were the RT windows properly established?  W. Combrising calibration analyzed daily?  Were all the retention times within the acceptance windows?  Was a method blank associated with every sample in this SDG?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed for each matrix and concentration??  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  VI. Surrogate spikes  Were all surrogate six R within the QC limits?  If any KR was less than 10 percent, was a reanalysis performed to confirm %R?  If any KR was less than 10 percent, was a reanalysis performed to confirm %R?  VII. Matrix spike (MS) and matrix spike duplicates  Were a matrix spike (MS) and matrix spike duplicates  Was a MS/MSD sold rio, indicate which matrix does not have an associated MS/MSD sold rio, indicate which matrix does not have an associated MS/MSD sold rio, indicate which matrix does not have an associated MS/MSD sold rio, indicate which matrix?  Were the MS/MSD sector recoveries (%R) and the relative percent differences  Was an LCS analyzed for this SDG?	Method: GC HPLC			<del></del>	T
All technical holding times were met.  Cooler temperature criteria was met.  ### Thitial calibration  Did the laboratory perform a 5 point calibration prior to sample analysis?  Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (RRD) < 20%?  Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?  Did the initial calibration meet the curve fit acceptance criteria?  Were the RT windows properly established?  IV. Continuing calibration analyzed daily?  Were all the retention times within the acceptance windows?  Were all the retention times within the acceptance windows?  V. Blanks  Was a method blank associated with every sample in this SDG?  Was a method blank associated with every sample in this SDG?  Was a method blank associated with every sample in this SDG?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed for each matrix and concentration?  Vis three contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Vi. Surrogate spikes  Were all surrogate %R within the QC limits?  If the percent recovery (WR) of once or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?  If any %R was less than 10 percent, was a reanalysis performed to confirm %R?  Vii. Matrix spike/Msh) and matrix spike duplicates (MSD) analyzed for each matrix in this Spike fully indicate which matrix does not have an associated MSh/MSD, Soil / Water.  Was a MS/MSD analyzed every 20 samples of each matrix?  Viii. Liaboratory control samples		Yes	No	NA	Findings/Comments
All technical holding times were met.  Cooler temperature criteria was met.  If Inhital calibration as 5 point calibration prior to sample analysis?  Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (WRSD) \( \) 20%?  Was a curve fit used for evaluation? If yes, were all percent relative standard deviations (WRSD) \( \) 20%?  Was a curve fit used for evaluation? If yes, what was the acceptance criteria used?  Did the initial calibration meet the curve fit acceptance criteria?  Were the RT windows properly established?  IV. Continuing calibration analyzed daily?  Were all percent differences (%D) \( \) 18% 0 or percent recoveries 46-115%?  Were all the retention times within the acceptance windows?  V. Biamis  Was a method blank associated with every sample in this SDG?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Vi. Surrogate spikes  Were all surrogate %R within the QC limits?  If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?  If any %R was less than 10 percent, was a reanalysis performed to confirm %R?  Vii. Matrix spike/Matrix spike duplicates were an associated MSN/SD, Soil / Water  Was a MS/MSD analyzed every 20 samples of each matrix?  Was a MS/MSD analyzed every 20 samples of each matrix?  Viii. Liaboratory control samples	I. Technical holding times				
II. Initial calibration  Did the laboratory perform a 5 point calibration prior to sample analysis?  Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?  Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?  Did the initial calibration meet the curve fit acceptance criteria?  Were the RT windows properly established?  W. Conditing calibration analyzed daily?  Was a continuing calibration analyzed daily?  Were all percent differences (%D) < 18% 0 or percent recoveries 48-115%?  Were all the retention times within the acceptance windows?  V. Blanks  Was a method blank associated with every sample in this SDG?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Vi. Surrogate spikes  Were all surrogate &R within the QC limits?  If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?  VII. Matrix spike/Matrix spike duplicates  Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MSM/SD. Soil / Water.  Was a MSMSD analyzed every 20 samples of each matrix?  VII. Laboratory control samples  VIII. Laboratory control samples					
Did the laboratory perform a 5 point calibration prior to sample analysis?  Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (YRRSD) < 20%?  Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?  Did the initial calibration meet the curve fit acceptance criteria?  Were the RT windows properly established?  IV. Continuing calibration  What type of continuing calibration calculation was performed?	Cooler temperature criteria was met.		<u> </u>		
Did the laboratory perform a 5 point calibration prior to sample analysis?  Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (YRRSD) < 20%?  Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?  Did the initial calibration meet the curve fit acceptance criteria?  Were the RT windows properly established?  IV. Continuing calibration  What type of continuing calibration calculation was performed?	II. Initial calibration				
deviations (%RSD) < 20%?  Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?  Did the initial calibration meet the curve fit acceptance criteria?  Were the RT windows properly established?  IV. Continuing calibration  What type of continuing calibration calculation was performed? %D or %R  Was a continuing calibration analyzed daily?  Were all percent differences (%D) < 16% 0 or percent recoveries \$6-115%?  Were all percent differences (%D) < 16% 0 or percent recoveries \$6-115%?  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  Vi. Surrogate spikes  Were all surrogate %R within the QC limits?  If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?  If any %R was less than 10 percent, was a reanalysis performed to confirm %R?  VII. Matrix spike/Matrix spike duplicates  Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.  Was a MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?  VIII. Laboratory control samples	Did the laboratory perform a 5 point calibration prior to sample analysis?				
Did the initial calibration meet the curve fit acceptance criteria?  Were the RT windows properly established?  IV. Continuing calibration  What type of continuing calibration calculation was performed?			_		
Were the RT windows properly established?  W. Continuing calibration  What type of continuing calibration calculation was performed?					
iv. Continuing calibration  What type of continuing calibration calculation was performed?%D or%R  Was a continuing calibration analyzed daily?  Were all percent differences (%D) < 18*%.0 or percent recoveries 85*T15%?  Were all the retention times within the acceptance windows?  V. Blanks  Was a method blank associated with every sample in this SDG?  Was a method blank analyzed for each matrix and concentration?  Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  VI. Surrogate spikes  Were all surrogate %R within the QC limits?  If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?  If any %R was less than 10 percent, was a reanalysis performed to confirm %R?  VII. Matrix spike/Matrix spike duplicates  Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.  Was a MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?  VIII. Laboratory control samples	Did the initial calibration meet the curve fit acceptance criteria?				
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Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.  VI. Surrogate spikes  Were all surrogate %R within the QC limits?  If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?  If any %R was less than 10 percent, was a reanalysis performed to confirm %R?  VII. Matrix spike/Matrix spike duplicates:  Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.  Was a MS/MSD analyzed every 20 samples of each matrix?  Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?  VIII. Laboratory control samples	Was a method blank associated with every sample in this SDG?				
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matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.  Was a MS/MSD analyzed every 20 samples of each matrix?  Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?  VIII. Laboratory control samples	VII. Matrix spike/Matrix spike duplicates	4.5			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?  VIII. Laboratory control samples	matrix in this SDG? If no, indicate which matrix does not have an associated			_	
(RPD) within the QC limits?  VIII. Laboratory control samples	Was a MS/MSD analyzed every 20 samples of each matrix?			_	
VIII. Laboratory control samples	(RPD) within the QC limits?				
Was an LCS analyzed for this SDG?	VIII. Laboratory control samples				
	Was an LCS analyzed for this SDG?	_			
Was an LCS analyzed per extraction batch?	Was an LCS analyzed per extraction batch?				

LDC #: 1707905/ SDG #: 44 voud

### **VALIDATION FINDINGS CHECKLIST**

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?				
X: Regional Quality Assurance and Quality Confrol 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Were performance evaluation (PE) samples performed?				_
Were the performance evaluation (PE) samples within the acceptance limits?		* # 107800	_	
X-Target compound dentification				
Were the retention times of reported detects within the RT windows?		Outes/outes	200	
XI: Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?				
XII. System performanœ			\$40 <b>4</b> 2	
System performance was found to be acceptable.				
XIII' Overall assessment of data			й - (3-) и - (3-)	
Overall assessment of data was found to be acceptable.		_		
XIV; Field duplicates				
Were field duplicate pairs identified in this SDG?				
Were target compounds idetected in the field duplicates?				
XV. Field blanks	### 58			
Were field blanks identified in this SDG?				•
Were target compounds detected in the field blanks?				

LDC # 17079CS / SDG# fre court

VALIDATION FINDINGS WORKSHEET Initial Calibration Calculation Verification

Page: / of

METHOD: RSK-175

Parameter: Methane

X^2								
<b>&gt;</b>	9308.300	89744.300	863867.200	4401745.000	9597354.000	5935.100		
×	10.000	100.000	1000.000	5000.000	1.00E+004	3.00E+000		
Compound	methane							
Column	middle-FID							
Date	05/23/2006						-	

	Regr	Regression Output:	Reported	
Constant		0.0000		0.00E+000
Std Err of Y Est		162740.52418		
R Squared		0.99823		0.99848
No. of Observations		6.00000		
Degrees of Freedom		5.00000		
X Coefficient(s)	9.432E+002			9.43E+002
Std Err of Coef.	14.497497			

LDC# 17879CK | SDG# Are content

# VALIDATION FINDINGS WORKSHEET Continuing Calibration Results Verification

METHOD: GC HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 \* (ave. CF - CF)/ave. CF Wher CF = A/C

Where: ave. CF = initial calibration average CF

ig calibration CF	punoduo	C = Concentration of compound
CF = continuing calibration	A = Area of compound	C = Conce

Standard ID   Calibration   Compound   Average CF(Conc.   MO CCV Conc.   CF(Conc.   MO CCV Conc.   CF(Conc.   MO CCV Conc.   CF(Conc.   CF(Co			***			Reported	Recalculated	Reported	Recalculated
8:14 5/15/07, methane 1000 1068.2 1068.2 6.1X	#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	CF/Conc. CCV	CF/Conc. CCV	Q%	<b>Q</b> %
→ 1:8	-	aed	5/15/07	me thank	0001	1068.7	1088.2	X'9	X
		71:8	•						j Š
3 4 4 4									
	2			`					
4									
	9								
								,	
	4								
			·						

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10,0% of the recalculated results.

CONCLC.1S

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

2nd Reviewer: Page: \_of\_ Reviewer:

METHOD: CC HPLC

LDC #: 17079es, SDG #: the court The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 \* (SSC - SC)/SA

SSC = Spiked sample concentration SA = Spike added LCS = Laboratory Control Sample Where

SC = Sample concentration

RPD =(((SSCLCS - SSCLCSD) \* 2) / (SSCLCS + SSCLCSD))\*100

LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples:

0/501

	Spi	ke	Sample	Spike S	ample	SOT	S	GSDT	D	TCS/FCSD	csD
Compound	Added ( O.O.m.)	led m√)	Conc.	Concentration ( ハクャペ〜 )	tration	Percent Recovery	ecovery	Percent Recovery	covery	RPD	9
	LCS \ 1	CCSD	7.	CCS	TCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)	1000	7000	Ö	1361.	69734	901	105	901	701	S, U	5.4
2,4-D (8151)									-		
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											-
2,4,6-Trinitrotoluene (8330)											
										-	

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported esults do not agree within 10.0% of the recalculated results.

LCSCLCNew.wpd

LDC #. 11079CT SDG#: 14

### VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: Reviewer: 2nd Reviewer:

BC HPLC

METHOD: Z Z Z Z

Were all reported results recalculated and verified for all level IV samples? Were all recalculated results for detected target compounds within 10% of the reported results?

(RF)(Vs or Ws)(%S/100) (A)(Fv)(Df) Concentration=

A= Area or height of the compound to be measured Fv= Final Volume of extract

RF≈ Average response factor of the compound In the initial calibration Df≈ Dilution Factor

Vs= Initial volume of the sample Ws= Initial weight of the sample %S= Percent Solid

3

II 50

Concentration =

Compound Name

#

Sample ID.

Example:

le ID Compound Concentrations Conce						
33 497 = (9.4322 × 10) (x) x = Reported  Compound  Concentrations  Concentrati		Qualifications	6			
33 497 = (9.4322 × 10) (X  Compound Concentrations  HS = 355 (55,51) (16.04) (  1,000,000   1,000,000   4130  1,000,000   1,000   1,000   1,000  (1000000 ) (22,4) (36) (298/2)		Recalculated Results Concentrations				
33 497 - Compound  Compound  Loop, 1,000,000,000,000,000,000,000,000,000,	$\overline{}$	Reported Concentrations	1) (16.04) (	(4)(1)	WS25000	3.35 na 12
	4.4	Compound	200,0001 5,25) 25,6	( کری جی) ( کری جی) ( کری جی) ( کری جی) ( کری	Jufet	
Samp	, <sub>w</sub>	Sample ID	mall gare in the			ıts:
mments:		#				ommen

SAMPCALew.wpd

BOE-C6-0055114